

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—SENSE DATA AND JUDGMENT IN
SENSORY COGNITION.¹

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INTRODUCTION.

THIS is an essay in philosophic Blimperry: or so at least it must seem, I fear, to the great majority of present-day philosophers. I am proposing to enter a plea for the consideration of the problems of sensory cognition from the standpoint of a doctrine which—if the literature of the subject is to be trusted—most philosophers now believe to be as dead as the dodo. I refer to the doctrine that ‘all cognition is judgment’; or, as it is often alternatively formulated, that ‘the unit of cognition is the judgment’. It will be recalled by readers with powerful memories that this was one of the doctrines most consistently advocated by the British School of Idealism.

Some preliminary extenuation may not improbably be expected of the writer’s effrontery in inviting attention to a doctrine so seemingly archaic. I offer this to the reader (presuming him not to have been already halted by indignation) in the form of some reflexions upon the manner of that doctrine’s eclipse in modern philosophy.

We need not attempt to fix precise dates for this eclipse; but it would no doubt be agreed that as recently as thirty years ago the doctrine was still enjoying a great part of the prestige natural to a leading epistemological tenet of a school which had dominated the philosophic thought of the English-speaking peoples for

¹ I wish to acknowledge valuable assistance in composing this paper from Mr. W. F. R. Hardie, of Corpus Christi College, Oxford, who read, and made liberal critical comments upon, a first draft. The reader must not, of course, assume Mr. Hardie’s endorsement of the views now expressed.

something like half a century. Then, in the ensuing decade, a very remarkable thing happened—something, perhaps, without a real parallel in the whole history of philosophy. Normally, a reigning doctrine of any importance, unless it be a mere implication of some other reigning doctrine, is dislodged from its position of authority only by direct assault. A grand controversial battle is joined, and any subsequent student of philosophy who wishes to know what it was all about, and to apprise himself of the chief arguments on either side, can be directed without difficulty to a well-defined body of polemical literature in which the *pros* and *cons* are more or less exhaustively set forth. The queer thing about the doctrine that all cognition is judgment is that no battle was ever joined about it at all. It was just quietly by-passed with scarcely a blow struck on either side. One has only to ask one's self to what books or articles one would turn for the best light on this debate in order to discover that in point of fact a debate never took place.

How did our doctrine come to suffer this singular fate? There is no great mystery, I think, about the historical causes. Quite obviously the primary cause was the extreme violence of the reaction which, during the second and third decades of the present century, set in against the school of philosophy with which this doctrine of judgment was especially identified. As everyone knows, the revolt against Idealism, initiated chiefly by Moore and Russell in this country and by the New Realist group in the United States, proved quite prodigiously successful; so successful that by the early '30's there was among the new generation of philosophers—torn asunder as they were upon almost every point of positive doctrine—a virtual unanimity of conviction that at least the philosophy of Idealism had been utterly and finally routed. The general merits and demerits of this anti-Idealist movement it is fortunately no part of our business to discuss here. The point of cardinal importance for our theme is that this revolt achieved its overwhelming success *without finding it necessary ever to come to terms with the Idealist doctrine of judgment*. So far as formal argument was concerned, it was Idealist *mentalism* and Idealist *monism*, with their joint product the Idealist *Absolute*, that drew almost all the hostile fire. And not merely did the judgment-doctrine fail to be discussed on its own merits. There was lacking even a serious attempt to demonstrate (what it would, indeed, have been very difficult to demonstrate) that this doctrine was essentially connected with, and so must stand or fall with, the mentalism or the monism which were held to have been refuted. It seems to have been

just taken for granted that a doctrine which occupied so prominent a place in the writings of Idealists could not hope to survive the general wreckage of the Idealist philosophy. And so most philosophers of the period proceeded henceforth to discuss the problems of epistemology—as they still do to-day—very much as though the Idealist doctrine that all cognition is judgment had never existed.

The abnormal violence of the reaction against Idealism must, I think, be held primarily responsible for the side-tracking of its doctrine of judgment. The dialectical brilliance and power of the onslaughts to which the Idealist Absolute in particular was subjected engendered, among many of the younger philosophers at least, a contempt for the school of Idealism which there was little effort to disguise, and which found one of its many manifestations in an almost total disregard of everything that Idealists had ever written. There was no reason why the Idealist judgment-doctrine should constitute an exception. But it is fair to add that there was a number of subsidiary factors, besides the *virtus* of the conqueror, which told against any serious attention being paid to the epistemological writings of Idealists. For one thing, the pioneers of the new Realism and the new Empiricism—not to speak of the pioneers of the new Physics—were confronting philosophers with a whole host of novel, challenging, and exciting problems, and there was no obvious bearing upon their solution in any thing that Idealists were in the habit of saying. Again, the many-faceted problem of perception soon came to dominate the epistemological scene: and even the warmest admirers of the Idealist philosophers must allow that this is a topic upon which Idealists have as a rule been content with a singularly negative approach. And no doubt a third factor, less direct in its operation, was the trend of the new logic. From the standpoint that was steadily gaining currency among logicians, what the Idealist calls logic is for the most part not logic at all. Naturally enough, therefore, the tendency was for the logical works of Idealists to suffer even greater neglect than their metaphysical works. This has been peculiarly unfortunate for the fate of the doctrine that all cognition is judgment, since it is in two ostensibly logical treatises, Bradley's *Principles of Logic* and Bosanquet's *Logic*, that the standard expositions of that doctrine are to be found.

But all that these considerations yield us is, at best, an *historical explanation* of the eclipse of the doctrine in question. They go no way at all towards supplying us with a *logical justification* of that eclipse. For that, I submit, we are still waiting. I do not

suggest, of course, that the doctrine may not some day be formally disproved. But I do suggest that very few of the very many philosophers who write about cognition as though there never had been such a doctrine have the least idea of how they would set about disproving it. And I fancy that most philosophers, on reflection, would be candid enough to admit that this is the case. Indeed, to the question 'On what arguments do you rely for the refutation of the doctrine that all cognition is judgment?' the first reply of a great many philosophers could only be another question—'What is this doctrine that all cognition is judgment?'

If it be granted that these introductory observations have given a tolerably just account of what has happened to the Idealist doctrine of judgment, it will also be granted, I hope, that a writer need not be too apologetic about making it the main burden of his discourse. It is difficult for the present writer to feel apologetic at all, since in his opinion the doctrine is sound, and the disregard of it in recent theory of knowledge nothing short of calamitous. The application of the doctrine to sensory cognition, I shall try to show, entails the uncompromising rejection of the modern conception of 'sense-data' or 'sensa': and it need hardly be pointed out that that means that a large part of contemporary philosophical discussion, including the major part of the controversy over the nature of perception, is concerned with nothing but pseudo-problems.

My first task must plainly be to say something about the judgment-doctrine itself. It is a tedious business retailing arguments which have already been given (as it seems to me) very adequate expression, and I propose to devote the greater part of my paper to ground that has not been so well—indeed not at all well—covered; *viz.*, to the bearing of the doctrine upon the conception of 'sense-data', and to the explanation, in terms of the doctrine, of those sensory phenomena for whose designation the term 'sense-datum' was thought to be required. But the treatment of these topics must be preceded by at least a brief exegesis and defence of the doctrine on which it is based. Fortunately, it seems possible to present the case in a reasonably concise form.

2. COGNITION AS JUDGMENT

'All cognition is judgment.' That is the thesis we have to try to recommend. And it may be as well first of all to make it clear that 'cognition' in this statement is not a synonym for that strict 'knowing' which excludes the possibility of error. It

is being used rather in the sense in which it has been customary in Psychology to distinguish cognition from conation and feeling as basic modes of experience. In this use of the term it is no more necessary that a cognition be true than that a conation be good. Those who advocate our doctrine have given expression to this aspect of it by equating cognition with *any* 'awareness of meaning', *any* 'significant apprehension'.

These latter expressions, 'awareness of meaning' and 'significant apprehension', throw some light, I think, on the nature of cognition. But they are not at all self-explanatory expressions, and we shall not at this stage avail ourselves of them. Their identity with cognition will emerge in the course of the argument for the identity of cognition with judgment.

As to this central argument, there is, I think, only one really sound course to follow—an 'empirical' course. If we are to understand what cognition essentially is and entails, we must start from an actual instance in regard to which we should all be agreed that our minds pass from a non-cognitive state to a state of cognition; and we must endeavour to observe the characteristic marks of that transition.

Let the reader, then, suppose himself to be lying out on the open hill-side on a fine summer day, completely absorbed in his own thoughts. All sorts of sights and sounds and smells assail his senses, but they 'mean nothing' to him. So far as awareness of his physical surroundings is concerned, he might equally well be sitting in his easy-chair before his study fire. Suddenly, something occurs to awaken him abruptly from his reverie—perhaps the whirr of an approaching aeroplane. He 'comes back to life' (as the saying is) and begins to 'notice' what is before him and about him. What he was previously 'looking at', but without awareness, is registered now in his conscious mind, and now, in sharp contrast with a moment ago, it has what would ordinarily be called a *meaning* for him.

Everyone will doubtless concede that we have here a case in which the mind passes from a non-cognitive to a cognitive state with respect to its owner's physical environment. Now let us select some particular item in the cognised field, for preference some very simple item like a patch of green, and let us consider what is involved in its thus becoming 'cognised' or (for I think we may already accept the identity) 'meaningful'.

I suggest that it is not really so very difficult, if we conduct our 'ideal experiment' with care, to detect the most important thing that happens when the 'green', which previously 'meant nothing' to us, suddenly acquires meaning or is cognised. It

acquires meaning, or is cognised, *when and only when it is apprehended*¹ *as characterising the objective world*, and as related, accordingly, to other constituents of that world.

The key term in this statement is pretty clearly 'objective world', and we must leave no doubt about what it means for us. By 'objective world' I mean that independent reality which is the postulate of all knowing and all attempts to know. All knowing and all attempts to know presuppose a reality to be known whose existence and nature are independent of the knowing mind. The cognitive life in general may be said to consist in the progressive articulation of that independent objective reality. To be 'cognised' is, I am suggesting, to be apprehended as characterising this independent objective reality.

This view of the matter is strongly confirmed, I think, when we consider the cognitive development of our rudimentary 'objects'. Our coming to think of them as having complex relational meanings seems to depend absolutely upon their first satisfying this minimal condition, that they be apprehended as characterising the objective reality. Only thus could the 'cognised green' play the rôle that it actually does play in the later life of cognition. For only thus could we link it up or relate it to other items in our characterised objective reality, and eventually arrive at the developed cognition of it as, perhaps, 'a green shrub in the middle of a stretch of moor-land half a mile to the north-west of us'. And this is the sort of thing we do in fact do with whatever comes within the orbit of genuine 'cognition'.

It may be allowed, indeed, that it is possible for an entity to be in *some* sense 'present' to the mind and yet not apprehended as characterising the objective world: as, *e.g.*, in certain kinds of subconscious mental process. But it seems perfectly evident that in such cases we should not, on reflection, be prepared to speak of the object as being 'cognised'. So far as cognition is concerned, the entity is just nothing at all, conveys no kind of meaning. It has precisely the same status, in this respect, as the unnoticed, uncognised 'green' which becomes cognised only when, emerging from our 'day-dream', we are aware of it as characterising the objective world.

It is also possible, of course, for an entity to be quite genuinely 'cognised', and yet, even if a 'sensible' entity, not to be apprehended as characterising the *physical* world. At a certain level of philosophical sophistication we are plainly able to regard

¹ It should perhaps be made clear that the term 'apprehend' is used throughout this paper in a sense which does not exclude the possibility of erroneous apprehension.

the cognised 'green' as characterising the *mental* world, or perhaps a *neutral* world sacred to sense-data. But the 'mental' and 'neutral' worlds fall within the sphere of 'objective reality' just as much as the 'physical' world does. We are still, in cognising the 'green', characterising the objective reality, whether we assign it to the physical, the mental, or the neutral realm of that reality (or, in a state of 'philosophic doubt', disjunctively to the physical-or-mental-or-neutral realm). The one thing we *cannot* do is to cognise the green and ascribe it to *no* realm of objective reality. To be 'just green' is to be, for our minds, just nothing.

The view for which I have been arguing is, or at least is like, the view that 'all cognition is judgment'. I am of opinion that it is not merely like, but the same. Where we have a character ('green' in our illustration) affirmed (or accepted—it makes not the least difference, as I shall argue below) as predicate of the independent reality as subject, there it seems natural and proper to speak of a 'judgment'. The name, of course, is a matter of indifference. So long as we are agreed about what is involved in cognition, the terms we use are a mere question of convenience. But there really seems to be no good reason for departing from the traditional nomenclature. The term 'belief', which has found a certain amount of favour as an alternative, seems to me to have serious disadvantages. Among these is the fact that belief, as we ordinarily use the term, admits of degrees of intensity. We speak of having strong, and not so strong, beliefs. But that which we are preferring here to designate by the term 'judgment' does *not* thus admit of degrees. So far as the strictly mental assertion that A is B is concerned (assertion by word of mouth or other physical medium is of course another matter, but is not to the point), the distinction between strong and weak has no application. Without doubt our degree of confidence about the B-ness of A can be very different at different times. But this difference in our state of mind does not manifest itself in a difference in the degree of assertiveness in the corresponding judgments: it manifests itself in a difference in the contents of the judgements. If we are in no doubt as to the B-ness of A, our mental assertion or judgment is that A is B; if we are doubtful, but only slightly doubtful, it is that there is a high probability that A is B; and so on.

But is it always the case in cognition that we *assert* characters of reality? It might be urged against our identification of cognition with judgment (as was hinted a moment ago) that there are many cognitions in everyday life in which nothing that can

properly be called 'asserting' occurs: cognitions in which we merely 'accept', and do not 'assert', the B-ness of A.

One might answer the objection by pointing out that even cognitions which merely 'accept' are capable of being true or false, and that the possession of this mark places them at once in the class of 'judgments'. But, apart from that, it seems to me that to 'accept' the B-ness of A is to 'assert' the B-ness of A, but to assert it in a relatively inexplicit fashion. For though we cannot assert 'more or less', we can assuredly be 'more or less' clearly conscious of asserting. We are, as a rule, *most* clearly conscious of asserting when the B-ness is a feature of A that is unfamiliar to us, or when there has been a prior period of doubt as to whether A is B. We are, as a rule, *least* clearly conscious of asserting, when the B-ness of A is a feature to which we have long been accustomed. We may say, if we please, that cognitions at the lower end of the scale 'accept', and that those at the higher end 'assert': but there is no clean line of demarcation, rather a shading of the one into the other at certain intermediate stages at which we should be hard put to it to know whether it is more proper to speak of 'asserting' or 'accepting'. In short, the distinction is wholly a matter of degree.

The application which we are proposing to make of our doctrine in the sequel is solely to the field of *sensory* cognition, and we may—indeed must—limit our exposition accordingly, ignoring objections which might possibly be raised (and also, I believe, met) in respect of other spheres of cognition. It is now time that we turned to look more closely at the judgment-form in which (we are contending) all cognition is cast. We shall follow the same economical procedure as before, considering only those general characteristics of judgment which will have to be borne in mind as a background in order to appreciate the full implications of the doctrine for sensory cognition.

First, then, as to the *subject* of judgment. An answer to this has already been given by implication. It is always the *objective reality* which cognition seeks to characterise. All knowing and all attempts to know are a knowing of or attempts to know *reality*. A simple way of bringing out this point in relation to judgment is by consideration of the fact that the judgment by its very form claims to be *true*. (Otherwise the claim of a judgment would not be felt to be denied by the rejoinder that what was asserted was false: it would be open to the person who made the judgment to retort that he never thought it wasn't.) But to be 'true' is to be true of *reality*. There is nothing else of

which anything *can* be true. Hence the judgment must be held to claim that what it asserts—its 'ideal content', in the terminology of the tradition we are following—is true of or correctly characterises reality. Another way of establishing the same conclusion is by pointing out that any judgment 'S is P' whatsoever can be cast, without change of meaning, into the form 'Reality is such that S is P'. This formulation has the incidental value of bringing out an important truth, *viz.*, that the whole ideal content of the judgment can legitimately be regarded as a *single* complex idea—the P-ness of S—which is predicated of reality.

To this aspect of judgment we shall be returning presently. But we may just note in passing how it affords an easy, yet for our purposes sufficient, way of dealing with a type of judgment which is, at the first look, more than any other type incompatible with the doctrine that reality is the subject of all judgments. I mean those judgments which are 'about' purely fanciful beings, products of the creative imagination. Take, *e.g.*, the judgment 'The Lilliputians were about the size of a man's finger'. On the surface it seems mere paradox to claim that the subject of this judgment is 'reality'. But if we re-state the judgment according to the formula given above, at the same time expanding the verbal expression sufficiently to bring out clearly the real meaning of what is being asserted, we get some such judgment as 'Reality is such that, in the world of things and people projected by the imagination of Swift and depicted in the pages of *Gulliver's Travels*, the Lilliputians were about the size of a man's finger'. This judgment is certainly about 'reality' as subject. Yet it differs only verbally, and not in meaning, from the earlier judgment, which seemed to be about *unrealities*.

Reality, then, is the ultimate subject of all judgment. But although this is the case, it is possible, and convenient, to distinguish also a *proximate* subject of judgment. If I assert that Scotland is mountainous, it is true that I am ascribing the mountainousness of Scotland, as predicate, to reality as subject. But there is also obvious truth in the ordinary notion that what I am doing is to ascribe mountainousness as predicate to Scotland as subject. But how can both be true? How can 'Scotland' in the judgment belong with truth both to the subject and to the predicate? Let us consider this question.

The convenience of distinguishing a proximate from an ultimate subject in judgment arises from the fact that while we are always, in judgment, seeking to characterise reality, it is normally upon reality already characterised in some particular phase or

aspect of it that our cognitive attention is focussed. Not indeed *always*. Exceptions exist both at the lowest and at the highest reaches of cognition (and perhaps elsewhere): in the most rudimentary cognitions, before discrimination within the real takes effect, and, at the other extreme, in those flights of philosophical or religious speculation in which we expressly seek to know the *general* character of reality. But the existence of exceptions does not affect our present point. Normally in judgment it is reality already characterised in some particular phase or aspect that we seek to characterise *further*. It is this particular phase or aspect that constitutes the *proximate* as distinct from the *ultimate* subject of judgment.

Now the proximate subject, thus understood, can be readily seen to be, in an important sense, both 'ideal' and 'real'. 'Scotland', the proximate subject in the judgment 'Scotland is mountainous', is 'ideal' in so far as it consists of a more or less definitive complex of significant terms-in-relation; but it is 'real' as well, in that this ideal complex is accepted by the judging mind, on the basis of past experience, as already accurately characterising reality so far, and as thus 'one with' the real. In the proximate subject, we may say, the opposition between ideal and real is for the judging mind partially reconciled.

Thus the judgment 'Scotland is mountainous', more fully articulated, becomes "Reality, already so far correctly characterised by what we mean by 'Scotland', is further characterised by what we mean by 'mountainous'". And we can now see, I think, how it is that 'Scotland' can be said with equal truth to belong to the side of the subject and to belong to the side of the predicate. It falls on the side of the predicate because it is ideal content affirmed of reality. But it falls on the side of the subject also, because its 'affirmation' is the affirmation involved in *acceptance*, and as an 'accepted' character of reality it serves in the judgment as the basis for further characterisation; i.e., as 'proximate' subject.

With these perhaps too brief observations upon the judgment-form in which all cognition is cast, we must pass on to the special problem of the paper, the application of our general theory of cognition to the field of sensory experience. Let us begin by trying to get clear ideas about the conception of 'sense-data', in terms of which the problems of sensory cognition are now almost universally discussed.

3. THE NOTION OF 'SENSE-DATA'

The difficulty of giving a short account of the judgment-doctrine was much lessened by the fact that its advocates are practically unanimous as to what it means. Unfortunately this advantage is lacking in the case of the conception of 'sense-data' or 'sensa'. (I shall use these terms as synonyms. The distinction which philosophers have sometimes drawn between them does not, I think, affect anything I have to say.) There is no agreed definition of the term 'sense-datum', and there is very marked variety in the properties and relationships which different philosophers have thought fit to ascribe to the entity. As might be expected, however, there is a fair measure of agreement—by no means total agreement—as to the *denotation* of the term. As is also to be expected, there is what may fairly be described as a 'common doctrine' which, so far as it goes, all or almost all the votaries of sense-data would accept. In the present Section I shall state what I take to be the chief items in that common doctrine.

(a) I think that all sense-data philosophers would agree that the sensing by which sense-data are apprehended is a separate cognitive function, quite distinct from, though no doubt closely related to, intellection. Some of these philosophers are prepared to concede that sensing is always in fact, and perhaps even of necessity, accompanied by intellection: that, *e.g.*, the *sensum* is always judged about as well as sensed. But they would still insist that within this 'total' act of cognition it is always possible in principle to distinguish the sensing with its *sensum* on the one hand from the judging with what is judged on the other hand. And indeed it is not easy to see how on any view which denied this autonomy to sensing the use of the terms 'sensa' and 'sense-data' could be felt to be appropriate.

This view represents, of course, the most radical possible departure from the epistemological tradition of the previous half-century, and the return to a doctrine which was subjected in the late nineteenth century to about as fierce a bombardment of heavy artillery as any philosophical doctrine has ever had to face. Many, probably most, of the philosophers of a generation ago firmly believed that the refutation of the claim of sensing to yield *per se* any kind of cognition constituted one of the few really permanent advances which the history of philosophy was able to show. The contemporary advocate of sensing, however, seldom allows himself to be disturbed by the criticisms of

philosophers who lived before the great twentieth century *Aufklärung*.¹

(b) There is almost universal agreement, I think, that the sensing of sensa is not merely a distinct mode of *cognition*, but a distinct mode of *knowing*. The sensing of sensa is, so far as it goes, infallible. This is equally the case whether the sensum is the constituent in a veridical or in an illusory perception. If under certain conditions I see a pink cloud, and under certain other conditions a pink elephant, the existence of the object of my sensing—the pink shape which is my sensum—is as indubitable in the one case as in the other.

On the other hand, although there is almost no support for the view that sensing can be fallible in the sense that the sensum can appear to be something which it is not, there is some influential support for the view that it can be fallible in the sense that the sensum can fail to appear to be something that it is. Some philosophers have held that there may well be more properties in a sensum than are actually noticed in a particular sensing of it. But this cannot be said to be, as yet at any rate, part of 'the common doctrine'. We must be content here merely to record a domestic difference which seems to us to have rather far-reaching consequences for the way in which the term 'sensum' is to be defined.

(c) The third item in what I have called the common doctrine is that sensa are *actual existents*. On this there is, I believe, absolute unanimity—whatever differences of opinion there may be as to the *mode* of existence which these entities enjoy. Nor is this unanimity at all surprising. If sense-data do not have actual existence, they cannot meet the theoretical need out of which they primarily arose. A chief begetter of the sense-datum theory was the problem set by illusory sense-appearances: e.g., the elliptical appearance (from certain angles) of the 'round' penny. We know that the elliptical shape does not belong to the penny. Yet even while we are knowing this, we still continue to 'see' something as elliptical. How could this be so (it is

¹ Nor, perhaps, by the criticisms of later philosophers either, if these happen to have drawn their inspiration from the Idealist tradition. A significant case is the article called 'Sensation and Thought' which the late Professor R. G. Collingwood contributed to the *Aristotelian Proceedings* of 1923-1924. In that article all the traditional arguments against 'pure sense' are marshalled with the author's well-known skill and vigour, and the conclusion is roundly stated that 'sense-data' are sheer mythology. I have not seen a reference to, much less a reply to, this attack by any of the sense-data philosophers in the twenty-odd years that have since elapsed.

asked), if there were not something elliptical 'there' to be seen? The conclusion is drawn that there does exist an elliptical something which, though evidently in very intimate relationship with, cannot be identified with, the penny. As an immediate object of sensing it may be named (with all else of its kind) a *sensum*. Whether this *sensum* be mental in character, or physical, or neither mental nor physical, are questions open to debate. But that it has existence in *some* mode is of the essence of its being a *sensum* at all.

From this central characteristic of *sensa*—actual existence—arise almost all the familiar and desperately intractable problems about sense-perception that have been agitating the philosophical world for the last quarter of a century. If sense-data are existents, how are they related to certain other ostensible existents in our universe? How in particular are they related to 'physical objects', which we know, apparently, only through their instrumentality? At least *some* *sensa*, we seem bound to agree, cannot be, or be constituents of, physical objects. And if *some* are not, does not the strong 'family resemblance' among *sensa*, and the identity in the conditions of their production, rather strongly suggest that *none* of them are? But if so, how by their means (or *without* their means) do we 'know' physical objects? Or have we perhaps been going too fast in supposing that we *do* know physical objects, in any sense of that term at any rate which is not reducible to a set of statements about sense-data? After all, once we grant the conception of *sensa*, the *prima facie* strength of the case for Phenomenalism cannot be gainsaid. For the evidence which is taken to support the existence of *sensa*—direct acquaintance—seems a good deal stronger than the evidence for the existence of 'physical objects', and perhaps stronger than the evidence for the existence of any other entity whatsoever. Quite naturally, therefore, sense-data tend to acquire a privileged position as the ultimate bases of metaphysical construction, and legitimate enquiries (wholly legitimate once the notion of sense-data is accepted) are set on foot as to whether all other ostensible realities are not in the last resort explainable in terms of the one indubitable reality—the 'sense-datum'. And so the debate goes on—no nearer an agreed solution on any major point after twenty-five years, so far as the present writer can see, than it was at the beginning: which is only what one should expect if sense-data are not actual existences at all but just the fictitious products of a faulty epistemological analysis.

4. ON THE NATURE OF SENSORY COGNITION

By those who followed, even though they may not have agreed with, our development of the thesis that all cognition is judgment, our main reason for contending that sense-data just do not exist will have been already anticipated. For if the argument for this thesis was sound, sensing is not a mode of cognition at all, much less a mode of knowing. The so-called 'sensum' can have being only as an element within the unity of the judgment, an element logically distinguishable but not otherwise separable. The question of its 'real existence' (and *a fortiori* of its relation as a real existent to other real existents) just does not arise.

Such was the implication of our analysis of the mind's passage from the unnoticed, uncognised 'green' to the noticed, cognised 'green'. The 'green' acquires a meaning for our minds, is something for cognition, when and only when it is apprehended as a colour characterising some part (possibly in certain rare cases the whole) of what we take to be the objective reality. That is, it functions as a predicate in a judgment. A 'green' *not* thus apprehended as characterising the objective reality, a 'green' with *no* apprehended relationship to the world we partially know and seek to know more fully, can play no conceivable part in the life of cognition. It is, so far as cognitive experience is concerned, sheer nonentity.

But obviously this view stands in need of much elaboration and defence if it is to appear at all plausible to those who remain sceptical (to say the least of it) about the soundness of its premises. I shall deal with the difficulties which seem to me the most formidable as faithfully as I can. I propose to begin by answering a question which may very reasonably be in the minds of many readers; and I am hopeful that, in the course of its discussion, the nature and implications of the view that is being defended will be appreciably clarified.

The question is this. "Are you" it may be asked, "denying that in what is commonly called 'sensory' cognition there is any such thing as 'sensing' at all? Are you really hoping to persuade us that there is nothing involved save an intellectual act of judgment?"

The answer is emphatically in the negative. I have denied 'sensing' only as a *mode of cognition*: I do not believe that there is a sensing whereby we apprehend a significant sensum. But I do not for a moment dispute that there is in the experience of sensory cognition something besides sheer intellection, something for which the title 'sensing' is appropriate. On the contrary,

I believe this sensing to be highly important—not as a *mode* of cognition, but as a *basis* of cognition. Let me now try to explain what I understand by this ‘sensory basis’ of cognition.

The way can best be prepared, I think, by considering why it is that, even if one has ceased to believe in ‘*sensa*’, one still has no real doubt that there is more in sensory cognition than mere judgment. The paramount reason appears to me to lie in what one may perhaps call the ‘extra-logical compulsoriness’ of the judgment in sensory cognition. I look at the tree and feel ‘obliged’ to affirm its greenness. But the obligation is not felt as a ‘logical’ obligation. The connexion of greenness with the tree is, intellectually, neither self-evident nor the implication of anything that is self-evident. And yet I do feel ‘compelled’ so to judge. Now if the source of this compulsion is taken to fall outside the field of the intellect, and yet to fall (as presumably it must) within the field of experience, we are clearly driven to recognise in sensory cognition the operation of some kind of non-intellectual mode of experience. And there is, so far as I can see, little against, and sound traditional reasons for, calling this non-intellectual mode of experience by the name of ‘*sensation*’.

But what positive meaning are we to give to ‘*sensation*’ in this context? Obviously not a physical meaning, such as the reaction of sense-organs to material stimuli: for our ‘*sensation*’ is a mode of ‘*experience*’. We are likewise forbidden by our own doctrine to regard it as a mode of cognition—the sensing of a significant *sensum*. From the point of view we have reached there is, I think, only one proper way of understanding ‘*sensation*’, viz., as an *immediate experience*, in which sensing and what is sensed are indissolubly one.

This seems to me to be in principle the solution. In all sensory cognition there is a *basis* of immediate experience—‘*sensation*’—which *evokes* in us, by extra-logical compulsion, the appropriate judgment: which *obliges* us to ascribe greenness to the tree, smoothness to the billard ball, and so on. This is what must be opposed to the doctrine that we are moved to affirm greenness of the tree because we ‘sense a green *sensum*’. One may, if one cares, retain the term ‘*sensing*’ for the immediate experience looked at from the side of the experiencing subject; though it would be wise, if one wishes to give a name to its objective correlate, to speak of that as the ‘*sensed*’, or even the ‘*given*’, and not as a ‘*sensum*’. But the vital thing to recognise is that this immediate sensory experience is in itself indivisible, sensing and sensed in one without distinction.

What has been said applies to sensing in general (in so far as

sensing is a factor in sensory cognition). At a certain stage in the development of our cognitive life, of course, we come to discriminate, within sensing, different sensory capacities connected with different classes of cognised characters—seeing with colours, hearing with sounds, and so on—and we come to correlate these different sensory capacities with processes in different parts of our bodies ('sense organs') which condition their exercise. At a later stage, psycho-physical analysis may reveal more detailed correlations, of determinate species within a class of cognised character (*e.g.*, a particular shade of colour) with a determinate species of physical reaction in the organ of sense. Such empirically discovered psycho-physical relations in the region of sensory cognition are not, I think, incompatible with anything in the general view of sensory cognition I have been putting forward. It can be accepted as simple matter of fact that sensory cognition is conditioned by bodily processes, and (as an implication of this) that the underlying 'sensing' is likewise so conditioned. Adoption of the thesis that all cognition is judgment has not, despite the circumstance that those who have been foremost in advocating the thesis happen to have been idealist in their metaphysic, any intrinsic connexion with denial of the existence of physical bodies. Indeed, a case could be made for the direct contrary. At least *one* serious barrier to belief in the existence of physical bodies is removed if we can accept the view that our primary sensory cognition is not of 'sensa', but of sensible qualities (including those that define 'the physical') as characterising subjects in reality. But we have enough on our hands without raising issues of this sort. What we are immediately concerned to do is to give an account of sensory cognition which, while true to our doctrine that all cognition is judgment, gives due recognition to that aspect of passivity, compulsiveness, or givenness which is rightly regarded as ineluctable in sensory cognition.

Our acceptance of a definite rôle for 'sensing' in sensory cognition will, we trust, have persuaded the reader that our theory is not so excessively 'intellectualist' as may have at first appeared. But the main burden of the reader's discontent, I am aware, may still remain. It is not difficult to imagine objections couched in some such form as this. "You are still, despite your lip-service to sensing, failing disastrously to do justice to the difference, manifest to everyone, between contents of sense and contents of thought. On your view, *all* content at the cognitive level, even what is universally called 'sensible'

content, falls within the field of judgment, and is thus a content of thought. But surely direct reference to actual experience discloses characteristics in 'sensible content' which mark it off in kind, and not merely in degree, from anything that can properly be called a 'content of thought'. Suppose, for example, we attend to the red colour of a 'seen' tomato, perhaps with a view to comparing this shade of red with other shades of red. Must it not be admitted (a) that there is an unique sensible 'quality', a vividness or tang, about the 'seen red' which is altogether lacking in any content of thought—in 'justice', 'triangularity' and the like. And must it not also be admitted (and this would seem to be a decisive objection to your view), (b) that this red which we see has that definite location in space and time which is universally accepted as the mark of a particular existent? If it has—and *that* it has seems obvious—the 'seen red' cannot possibly discharge the function which you would accord to it of a character ascribed in judgment to a subject in reality—a 'character' which is necessarily a *universal*."

Let us look at each of these points in turn.

(a) First, as to this 'sensible vividness' which is alleged to mark off contents of sense from contents of thought.

I do not at all deny that there is something fairly enough described as sensible vividness which is discoverable in some cognised contents and not in others. What I do deny is that the possession of this feature disqualifies a content from being a content of *thought*. The proper interpretation of sensible vividness I believe to be this. It does *not* serve to mark off 'contents of sense' from 'contents of thought'. It *does* serve to mark off a specific *kind* of thought-content, *viz.*, that specific kind which is thought under the direct impulsion of immediate sensory experience. Let me explain by way of an illustration.

Suppose that, instead of attending to the 'seen red' with a view to comparing it with other reds, I am looking at the tomato and making the straightforward judgment 'this tomato is red'. Presumably the 'redness' I ascribe to the tomato is a universal. And presumably also, as a universal, it is a content of thought. Now can it really be maintained that the thought-content here, the 'universal' redness, as it functions in my mind, lacks the 'sensible vividness' supposed to be the exclusive property of contents of sense? Has it not, on the contrary, precisely the *same* sensible vividness as the red that we say we 'see'? It seems to me that the test of inspection, the appeal to direct experience, reveals very plainly that the sensible vividness is present identically in the two cases.

Nor of course is there, for us, anything in the least surprising in this identity between the universal 'redness' in the judgment 'this tomato is red' and the 'seen red' upon which one may focus one's attention as a prospective subject of a comparative judgment. For in our view the latter content, despite first appearances, is every bit as much a universal as the 'redness' in the judgment cited. Indeed it is the same universal. The difference is merely that whereas in the one case (in the judgment 'this tomato is red') it is a character *affirmed* as qualifying a subject in reality, in the other case it is a character *accepted* as qualifying a subject in reality. Its alleged status as a 'particular existent' is, in our view, a delusion. But with this we come to topics better dealt with under (b) below.

(b) The second objection we were to deal with is, we believe, much less formidable than it looks. It looks formidable because, by dint of constant repetition, it has come to be regarded as just plain matter of fact, beyond dispute, that a sensible *quale* like the 'red' we see has position in space and time. It is, indeed, obvious that *something* in the 'objective field' of such cognitions has position in space and time. But need that 'something' be the sensible *quale*? Holding as we do that the sensible *quale* is in truth a universal affirmed as characterising a subject in reality, it is obviously incumbent upon us to suggest a tenable alternative to the common view. The alternative we suggest is that it is the '*subject in reality*', not the sensible *quale*, that possesses these spatio-temporal relations. In other words, it is not the red of the tomato that stands to the right of the sprig of lettuce in the salad bowl. It is the tomato which so stands—the tomato, to which both this shade of redness and a particular position in space (and time) are ascribed.

The example just used, however, must not be taken as committing us to the view that the entity which is characterised by the sensible *quale*, and which (we hold) alone has spatio-temporal position, is necessarily a *material* entity like the tomato. Such a view is untenable: for it is certain that one can cognise a 'red' while firmly convinced, on one or other of a number of possible grounds, that there is no material entity there to be characterised. If, then, we admit (as we do) that in such cases *something* is taken to have position in space and time, what can that 'something' be save the sensible *quale* itself? If not the 'red', what is it?

The answer is, I suggest, that it is a *specific spatial expanse*. For whatever the sentient subject may believe about the status of the red he cognises, however esoteric or bizarre the epistemo-

logical or ontological theory that he favours, it can be affirmed with confidence that he just is not capable of cognising a red without cognising it as characterising *at least* a specific spatial expanse. And a specific spatial expanse is, of course, a 'particular existent', with spatio-temporal position, just as much as a material entity is.

But at this point it is necessary to deal with a rather troublesome difficulty which the reader may be already preparing to press upon us. I do not believe the difficulty to be, as it were, *intrinsically* troublesome for our theory. It is troublesome rather because the way in which it must be met involves subscription to an epistemological doctrine which (though very far from novel) is not at present widely held, and which therefore itself stands in need of justification. But such justification is quite impracticable within the limits of this article. That the doctrine appears to the present writer to be independently valid, and is not propounded *ad hoc* to meet a special difficulty, is true, but is of merely autobiographical interest. The fact remains that the solution to be offered in these pages must have an unpalatably dogmatic flavour.

The difficulty itself is this. We have been maintaining that all sensory cognition involves the ascription of a sensory universal to a subject in reality. And we have further maintained that that subject is, at least sometimes, a spatial expanse. "But", it may be objected, "what of the sensory cognition of *the spatial expanse itself*? That expanse you have yourself just described as a particular existent: and it would, we fully agree, be palpably absurd to suggest that in cognising a specific spatial expanse we are ascribing the universal 'spatiality' to some 'subject in reality' (what *could* such a 'subject' be except 'a specific spatial expanse'?). But if your general theory of sensory cognition is to be consistent with itself, *ought* you not to be maintaining just some such absurd position?"

Now this charge of internal inconsistency would, without doubt, be valid on one condition: the condition that the apprehension of space *were* for us a matter of sensory cognition. But in our view it is not. In our view both space and time are objects of a *priori* intuition and constitute the universal framework within which sensory cognition takes place.¹ They are

¹Since we are not able here to offer reasoned defence of the doctrine that space and time are objects of a *priori* intuition, we may make what amends are possible by referring the reader to much the best defence known to us in modern philosophical literature—that in Professor N. Kemp Smith's *Prolegomena to an Idealist Theory of Knowledge*: a work to which, though venturing to disagree about the nature of 'sensa', we gratefully acknowledge a large debt.

not sensory characters ascribed to reality, but individual wholes whose intuitive discernment is logically prior to the ascription of sensory characters to reality. Sensory cognition thus presupposes, but is not strictly 'of', space and time.

Granted this doctrine of the cognition of space (and time ¹)—and we are only too well aware that this is asking a great deal—we can without contradiction of our general theory of sensory cognition disavow the untenable view that cognition of a specific spatial expanse is the ascription of the universal 'spatiality' to a subject in reality, while at the same time escaping the (to us) equally untenable view that it is the 'sensing' of a 'sensum'. A specific spatial expanse, as cognised, is an intuited part of an intuited whole. From this basis our theory can, I think, proceed smoothly enough. Immediate sensory experience, when the physical and other conditions appropriate to 'visual sensing' are fulfilled, evokes in us by extra-logical compulsion the judgment which ascribes colour of some sort to the spatial field; usually, by reason of coexisting differences in the physical conditioning, different colours to some differently situated expanses of the spatial field. (We cannot 'see' space without colour any more than we can 'see' colour save as in space: though we can certainly, as in cases of congenital blindness, *intuite* space in connexion with sensory characters other than colour.) The apprehension of shape (and of relative position and size) follows naturally upon the apprehension of differently coloured spatial expanses in the given field.

To sum up this part of our discussion. Our claim is that the seeing of a red patch is still, even where there is disbelief in the existence of a material object that is red, a judgment in which the universal redness (or some shade of redness) is ascribed to a subject in reality. The 'subject in reality' is a specific spatial expanse which is an object neither of thought, nor of sense, but of intuition. It is the spatio-temporal position of the specific spatial expanse characterised by redness which tends to be mis-attributed to the 'seen red' itself, with the natural consequence of engendering, or reinforcing, the false belief that the seen red is a 'particular'.

But, in spite of all that has been said, it may still seem to some readers too mysterious to be credited that so many persons, among them analytical philosophers, should be so constantly

¹ We may, for simplicity's sake, omit here further reference to 'time': merely noting that the 'subject in reality' characterised by certain non-visual sensory characters (e.g., 'noisiness') seems best taken as a specific *duration*.

mistaking for particulars (as our theory implies) such fundamentally different entities as universals. We doubt if it is really at all mysterious. Sensory cognition admittedly *looks* as though it were a matter of mere 'sensing'. Since the judgment it intrinsically involves is evoked by the extra-logical compulsiveness of the underlying immediate sensory experience, the judging subject is but little conscious of that 'intellectual' activity which he associates with judgment. Indeed, it is not too much to say that, unless encouraged to *look for* a judgment by some such arguments for the ubiquity of the judgment in cognition as Idealists have been wont to advance, no one is likely to suspect the presence of judgment in these experiences. And if one thus fails to recognise that the sensory cognition involves judgment, if one takes it to be a mere sensing, then it is entirely natural that one should suppose the sensibly vivid entity that we apprehend, with its seeming position in space and time, to be a 'particular existent'. Furthermore, the presumption that this entity has 'being' other than as an element within the unity of judgment is strengthened and stabilised by the fact that the entity as a rule continues to be present to consciousness 'whenever we look', at least for a considerable period of time: a fact easily enough explainable, indeed, in terms of our own theory, on the ground of a persisting identity in the underlying sensory conditions that evoke the judgment, but which suggests more readily the 'common-sense' explanation that the entity is 'there' with an independent existence of its own. But if, on the other hand, we *are* persuaded, as once upon a time many philosophers were persuaded, that all cognition, including sensory cognition, involves judgment, we *can* see (or such at any rate is my submission) that the 'sensibly vivid entity' is really the predicate of a judgment, and thus, despite first appearances, is a universal.

Something must obviously be said at some stage in this paper about illusion and hallucination, and the capacity of the judgment theory of sensory cognition to cope with these phenomena. This seems as suitable a place as any other at which to do it. We do not, however, propose to say very much. The case for the judgment theory is not based on any special competence the theory may possess to 'explain' these peculiar phenomena. On the other hand it *is* necessary to show that the phenomena of sense-illusion and hallucination at least do not *rule out* the judgment theory of sensory cognition, much less force us to acceptance of some form of sensum theory. That is all that we aim at establishing in what now follows.

Let us, in conformity with custom, start from the round penny which to observers from certain angles 'appears' elliptical. The votary of *sensa* points out that even when, as is usual, one knows that the elliptical shape does not belong to the penny, one continues to be aware of an elliptical-shaped *something*. How can one continue to do so if no elliptical-shaped entity is 'there'? As we have already seen, it is urged that the most plausible interpretation is that there does exist an elliptical-shaped entity, which is not the penny but an entity of a different order, a '*sensum*', with which we gain direct acquaintance in the act of sensing.

We were not able to accept this view of sensible *qualia* in the case of *normal* sensory cognition. The sensible *qualia* are, we argued, universals affirmed (or accepted) in judgment as characterising subjects in reality. Is there anything in the nature of *abnormal* sensory cognitions which puts this account of the matter out of court?

It might at first glance be thought that there is. It might be urged that if we know, and therefore judge, that the penny is round, we cannot possibly at the same time be making the directly contradictory judgment that it is elliptical. Now this is of course perfectly true. But it is not to the point. For no opponent of the judgment theory would think of contending that the judgment which survives our knowledge that the penny is round is the judgment that the *penny* is elliptical. The judgment that survives would be formulated in some such way as this, 'that brown-coloured spatial expanse is elliptically shaped'. And why should *this* judgment *not* survive? The judging subject, it is true, believes the brown elliptically shaped expanse to be related in *some* intimate sort of way to the 'round' penny. But as to the 'how', he is exceedingly unlikely to have any clear idea which entails for him a contradiction between his 'sensory' judgment and his judgment about the penny. If sufficiently sophisticated, he might, indeed, feel that there would be a contradiction if he were to attribute the ellipticality to anything in 'physical' space. But if he is sophisticated enough for that, he is also sophisticated enough to adopt the expedient of attributing it to an expanse in 'visual' space.

The other classic instances of sense illusions—the 'bent stick', the 'two candles' (of double vision), and so on—would fall to be dealt with, on the judgment theory, in the same way. The important thing always is to ascertain *what* precisely is the judgment which survives the realisation that the illusion *is* an illusion. When the nature of that judgment is correctly elicited, it can

easily be seen, I think, that there is no reason why it should *not* survive, since no irreconcilable conflict presents itself to the judging subject between *this* judgment and his judgment about the properties of the physical thing.

The phenomena of hallucination demand an only slightly different treatment. The victim of an hallucination is not, as a rule, aware that he is a victim. If he is not, there is no special problem at all for the judgment theory. There are not two distinct judgments which might conceivably conflict, but only *one* judgment—a false one. At times, however, the victim does recognise his hallucination for what it is. The distress of the habitual tippler who is confronted by a pink elephant is probably occasioned less often by fear of sustaining grievous bodily harm from a very formidable quadruped than by the reluctant conviction that *delirium tremens* has overtaken him at last. In this case the judgment that survives is perhaps not likely to be that an expanse of 'physical' space is characterised even by mere pinkness and elephant-shapedness: though doubtless persons in this frame of mind are not particularly sensitive to the presence of contradiction in their thoughts. If, however, the victim may be presumed to feel uncomfortable about the ascription of the characters in question to an expanse of physical space, he nevertheless just cannot help ascribing them to an expanse of *some* sort of space, even if the status of that space remains for him quite undetermined, or determined only by negation of the 'physical'.

We may close this brief excursus by emphasising what we said at the beginning—that it is no part of our present task to show how precisely the judgment theory of sensory cognition *explains* illusions and hallucinations. Doubtless a wide variety of explanations is abstractly possible on the judgment theory as on most other theories. All that is here sought is to make good the claim that there is nothing in illusion or hallucination which offers any special embarrassment of principle to the doctrine that all sensory cognition is judgment.

So far the objections to our general theory with which we have been dealing have been objections which we have, so to speak, ourselves put into the mouths of the critics. That is never a very convincing way of defending a thesis, but in the present case it has been largely unavoidable since (as indicated earlier) the doctrine that all cognition is judgment has been but rarely before the minds of writers on sensory cognition. One must recognise, however, at least one exception—or perhaps one should

say 'partial exception'. In the opening chapter of his *Perception*, Professor Price defends the notion of sense-data against a host of possible objections, and there is one passage which reads as though it were intended to meet criticism based on the Idealist doctrine of judgment. I put the matter in this tentative fashion because I do not think that the argument Price rebuts is in fact the Idealist argument; and also because it is never in so many words stated to be so. But it is more *like* the Idealist argument than are any of the other arguments he states and rebuts, and quite sufficiently like it to mislead some readers into supposing that the Idealist argument is here conclusively refuted. I propose, therefore, to consider this passage with some care: the more so since—with all respect to a philosopher from whom even disciples of reaction like the present writer gratefully acknowledge that they have learned much—I feel little real doubt that Professor Price does make the mistake of supposing that he is dealing with the Idealist criticism of sense data.

The passage in question is that in which Price discusses what he calls the '*A priori*' Thesis against sense-data. He gives this title to 'the most radical criticism' of the sense-data doctrine, which holds that 'from the nature of the case nothing can ever be given at all': and he proceeds to summarise, and then to attack, 'the main argument in its favour'. I shall give the passage *in toto*.

"It is impossible to apprehend something without apprehending some at least of its qualities and relations. In the language of Cambridge logicians, what we apprehend is always a *fact*—something of the form 'that A is B' or 'the B-ness of A'. You cannot apprehend just A. For instance, you cannot apprehend a round red patch without apprehending that it is round and red and has certain spatial relations. But if we apprehend that it has these qualities and relations we are not passively 'receiving' or (as it were) swallowing; we are actively thinking—judging or classifying—and it is impossible to do less than this.

"To this I answer, it is very likely true, but it is irrelevant. The argument only proves that nothing stands *merely* in the relation of givenness to the mind, without also standing in other relations: *i.e.*, that what is given is always also 'thought about' in some sense or other of that ambiguous phrase. But this does not have the slightest tendency to prove that *nothing is given at all*. The fact that A and B are constantly conjoined, or even necessarily connected, does not have the slightest tendency to prove that A does not exist. How could it, since it itself presupposes the existence of A? That arguments of this sort should be so frequently used, and should be thought so conclusive, is one of the curiosities of philosophical controversy."¹

¹ *Perception*, p. 7.

I suspect that Professor Price's readers, in a laudable eagerness to dissociate themselves from 'one of the curiosities of philosophical controversy', have tended to accept the content of this passage in too submissive a spirit. Had they not been discouraged from critical reflexion upon it by its slightly intimidating tail-piece, they would, it is true, have agreed with the author that the argument he refutes is a curiosity: but they could hardly have resisted some speculation as to whether Professor Price is correct in supposing that an argument *quite* so curious has been frequently used and thought conclusive—even by a race of philosophers from whom it is the fashion to expect somewhat sub-standard ratiocination. Actually it can be easily shown, I think, that if Professor Price's criticism is directed against the main epistemological argument by which idealists seek to disprove sense-data, it completely misses the mark.

The core of Professor Price's criticism clearly lies in the charge that the argument presupposes the existence of that which it sets out to disprove. "The fact that A and B are constantly conjoined, or even necessarily connected, does not have the slightest tendency to prove that A does not exist. How could it, since it itself presupposes the existence of A?" A, we are told in a footnote, "stands here for 'Givenness', B for 'thought-of-ness'". Evidently in Professor Price's view the main argument for the '*A priori*' thesis is at bottom reducible to this—that because in sensory cognition there is always in fact, and perhaps always is of necessity, a B (thought-of-ness) as well as an A (givenness), the A (givenness) does not exist at all!

I suggest to Professor Price that this is really too easy altogether. No doubt the followers of the Idealist tradition are very simple-minded persons. (We must be, if even one half of the arguments imputed to us are justly imputed.) But I would beg Professor Price and his readers to try to believe that most of us do know, and have known for quite a long time, that one and one make two. We really do know that if you have A, and add to it B, the result is not just B.

That the '*A priori*' argument against sense-data as set forth by Idealists does not perpetrate the enormity alluded to can best be shown, I think, by laying bare the fundamental difference between Professor Price's version of the argument and the version which I have adopted in this paper, and which I certainly believe to be the authentic Idealist version. Common to both versions is the principle that all sensory apprehension involves judgment. We do not apprehend 'just A', but "something of the form 'that A is B'". The crucial difference is this. On Price's

version of the argument, the 'judgment' involved is apparently a judgment which *accompanies* the sensory apprehension, and is *about the immediate object of that sensory apprehension, i.e.*, is about a 'sensum'. Since such a judgment very clearly presupposes the existence of that which it is the whole purport of the argument to disprove, the argument itself is, very justly, dismissed as a mere 'curiosity'. On the Idealist version, on the other hand, the 'judgment' involved is not a judgment which *accompanies* the sensory apprehension, but a judgment which *is* the sensory apprehension. Sensory apprehension, on this view, is (in so far as it is a mode of cognition) a judgment which ascribes to a subject in reality a certain sensory character. There is no question whatever of the Idealist argument accepting a sensum in the premise, as an entity about which we judge, and then denying it in the conclusion. The whole point of the Idealist argument is that the cognised sensible—the so-called 'sensum'—in sensory cognition has no status save as an element within the unity of the judgment. In other words, it is not a 'sensum' at all; not an 'actual existent' directly known through sensing.¹

Such, at any rate, was the nature of the argument against sense-data for which the early Sections of this paper were intended as a preparation, and the threads of which were drawn together in the opening paragraphs of the present Section. Even in this shape, of course, the argument may very well admit of valid criticism. But it will have to be a different criticism from that by which Professor Price proceeds to annihilate a different argument.

We have been considering so far Professor Price's criticism of 'the main argument in favour of the *a priori* thesis.' In a very short succeeding paragraph, however, Professor Price supplements this criticism by another, the declared purport of which is 'to attack the enemy on his own ground'. If I have understood the passage aright, it does not, I think, present any special difficulty for the view of the function of judgment in sensory cognition advanced in this paper: though I am not prepared to say that the criticism is not justified by the general tendency of Idealist epistemology to fight shy of—or at any rate to omit to

¹ The foregoing formulation of the Idealist argument will also have made it clear, I hope, that the argument is not (as Professor Price's version appears to be) directed against 'givenness' as such, but only against the givenness of *sense-data*. 'Givenness' is an exceedingly ambiguous term—at least as ambiguous as 'thought-of-ness'—but the Idealist argument against sense-data, as I understand it, is entirely compatible with the recognition of a 'given' in several intelligible senses of that term. On this point see below.

give a straight answer to—the question Professor Price asks. Here is the passage.

“Secondly, we may attack the enemy on his own ground and ask him how we can think without having something to think about. This *subject* or subject-matter about which we think must be somehow brought before the mind, if we are to think about it, and it cannot always be brought there by previous thinking, or we should have an infinite regress. This means that something must be *given*. And sensing is one of the ways (I do not say the only way) in which subject-matters for thought are given to us. No doubt it is important to insist that this intuitive ‘receiving’ of a datum is never more than an element in our total state of mind. But still it is an element, and an essential one.”¹

‘Thinking’ here must be equivalent to ‘judging’ if the argument is to relate directly to the ‘*A priori*’ thesis. The point of the argument I take to be that since all judging is about a subject, and since that subject cannot, without an infinite regress, be supposed to have been always provided by previous judgments, we must conclude that *some* subject at least is just ‘given’ to the mind. And presumably in sensory cognition this ‘given’ will be a ‘sensus’.

Now I agree, of course, that the subject of judgments cannot always have been brought before the mind by previous judgments. But I do not see that our argument for the rejection of *sensa* obliges us to hold anything to the contrary. For our view also ‘something must be given’. Indeed there is on our view a ‘given’ in three senses. In the first place, all judgment, we held, characterises a reality taken to be independent of the judging mind. Reality is the ultimate subject ‘about’ which we judge. There is thus always a subject of judgment which is not ‘brought before the mind by previous judgments’, since it is presupposed in all judgment; and in this sense we certainly recognise a ‘given’. In the second place, we accepted the doctrine that space and time are objects of a *priori* intuition. Here again is a ‘given’, providing subjects of judgment, in the form of spatial expanses and durational spans, not produced by previous thinking. But there is also, for our theory, a ‘given’ of a third kind; a kind somewhat nearer to that in which Professor Price is primarily interested, in that it is a given of an authentically ‘sensory’ character. I refer to the sensory basis which, we suggested, underlies the judgment in sensory cognition, and which we conceived as an immediate sensory experience evoking appropriate judgments by an extra-logical compulsion. It seems to me that we have in this immediate sensory experience

¹ *Perception*, p. 7.

a 'given' that is fitted to meet whatever is just in Professor Price's demand that subject matter be furnished to thought by sense. The difference between our views is, of course, that for us the sensory experience which furnishes the subject-matter is not itself a distinct cognitive function, but sensing and sensed in indivisible unity, whereas for Professor Price it is the sensing of a *sensum*, a distinct cognitive function with its distinct object.

And let me here remind the reader, in the very minimum of words, just why we found ourselves forced to reject the alternative which Professor Price and so many others offer. We are asked to believe in a given *sensum*, a significant object of 'pure sensing', *about* which we judge. But when we try to understand what can be meant by such an entity, 'experimenting' as carefully as we can with our own cognitive consciousness, we find that one of two things happens. Either the '*sensum*' remains at a stage at which it is, for cognition, just nothing at all; or, if it becomes something for cognition, it does so by being apprehended as characterising a subject in reality—*i.e.*, by ceasing to be a '*sensum*' and becoming an element in a judgment.

And there we must leave it, for the present at any rate. It would be of doubtful utility, even were space a matter of less importance, to try to anticipate further the difficulties likely to be felt in the view of sensory cognition we have sketched. That view, in so far as it attempts construction, may be regarded as an effort to make a modest contribution towards filling a rather conspicuous gap in the Idealist theory of knowledge. Without doubt the constructive theory contains many imperfections. No more is claimed for it than that it constitutes a 'case for consideration'. But there is also a much wider 'case for consideration' pleaded in these pages—the right of the Idealist epistemology to be examined before it is rejected. The assumption that it is already 'dead and buried' has for too long stood virtually unchallenged. All that the discoverable evidence shows is, we submit, that it has been buried.

II.—“SOCIAL ENGINEERING.”

BY R. RHEES.

“THE only course open to the social sciences”, says Dr. Popper, “is . . . to tackle the practical problems of our time with the help of the theoretical methods which are fundamentally the same in *all* sciences. . . . A social technology is needed which can be tested by social engineering.”¹

On this view, then, the social sciences are concerned with “practical problems”. And although these differ from theoretical problems, the assumption is that the same methods may be used for solving them.

But there are important differences. “The social engineer believes that man is the master of his own destiny, and that in accordance with our aims we can influence or change the history of man just as we have changed the face of the earth” (vol. i, p. 17). But the history of man is fundamentally different from the face of the earth, and so is the science of it. “The beginning of social science . . . is marked by the distinction between two different elements in man’s environment—his natural environment and his social environment.” For there can be no social science until there is a clear grasp of the fundamental distinction between “(a) *natural laws*, or laws of nature, or positive laws, such as the law of the apparent motion of the sun, or the law of gravity; and (b) *normative laws*, or standards, or norms, *i.e.*, rules that forbid or demand certain modes of conduct, or certain procedures; examples are the laws of the Athenian Constitution, or the rules pertaining to the election of Members of Parliament, or the Ten Commandments” (vol. i, p. 49). These normative laws are “decisions” and are man-made. Natural laws are independent of us. This is part of what Popper calls the “dualism of facts and decisions”.

Granting that these are different senses of “law”, it might still seem misleading to say that natural science studies natural laws, while social science studies normative laws. No doubt the study of society takes account of norms and standards, and of how they operate—how they arise, and how they influence social developments. But then it is studying them as natural, and if

¹ *The Open Society and its Enemies*, London, 1945, vol. ii, p. 210.

it succeeds in giving any general account of their operation it is formulating natural laws.

But Popper is not thinking of the *study* of society when he speaks of social science. He is thinking of the "scientific" *changing* of it—of the solution of "practical problems". That is why he thinks that if the social sciences were scientific they would be forms of social engineering.

Not all his statements about this are consistent. Towards the beginning of his book he suggests that a social engineer merely asks whether a particular institution is "well designed and organised to serve" any aims which have been proposed. "In his function as a citizen, who has certain ends in which he believes, he may demand that these ends, and the appropriate measures, should be adopted. But as a technologist, he would carefully distinguish between the question of the ends and their choice and questions concerning the facts, *i.e.*, the social effects of any measure which might be taken" (vol. i, p. 19). But he generally speaks as though it were the business of social engineers to "reform" social institutions. It is to this end that they perform "social experiments". Their problems are problems of how to "improve civilisation". "The 'world'", he says (vol. ii, p. 337), "is not rational, but it is the task of science to rationalise it. 'Society' is not rational, but it is the task of the social engineer to rationalise it." By "rationalising the world" I suppose he means *understanding* the world, or giving an account of it. But he does not mean that the social engineer should try only to understand society. His point is that rationalising society is altering or improving it. That is clear from the whole of chapter 24.

So when Popper speaks of making the social sciences scientific he generally means making social *policy* scientific.¹ He is holding that there is an analogy between "problems of social policy" and problems of science; and that they may be solved by the same methods. The science and discussion of social affairs will be a discussion of norms and of decisions; it will be a matter of justifying decisions or criticising them. It will include the critical discussion of institutions. But progress in such discussion will be progress in working out a policy for institutions, not a theory of them.

For I take it that the dualism of facts and decisions means,

¹ On the common confusion between social theory and policy see J. Anderson, "Utilitarianism", *The Australasian Journal of Psychology and Philosophy*, September, 1932, p. 167. I am indebted to other articles by Professor Anderson and others of his school in the same Journal.

for Popper, that decisions must be studied differently. That is part of what is meant by saying that they cannot be reduced to facts. I may decide that it is wrong to steal. Then my deciding is a fact, but "It's wrong to steal" is not a fact. It is not something to be *believed*. It is something that has to be *decided*—for or against. And the utterance of it is not the expression of a belief but of a decision. If I try to influence another in respect of such utterances, I try to influence his will or his decisions, not his beliefs. I could not *disprove* his decision that it is wrong to steal, or show that it was mistaken; at least not in the way in which I might show that his beliefs about matters of fact were mistaken. I may point out to him certain consequences. But "the decision depends on him".

Popper's discussion of all this is confusing, and I do not know how near my paraphrase comes. But he wants to hold, I think, that *because* "decisions or norms" cannot be reduced to facts, social science is a practical inquiry. To improve its method we must bring scientific method to decisions; at least when they are decisions of public policy.

The dualism of facts and decisions implies also that "existing normative laws (or social institutions)" (vol. i, p. 52) depend on "us". It is "we" who create or adopt them, and their existence cannot result from anything but our decision to create or adopt them. The dualism—the distinction between a mechanistic and a voluntaristic realm—is needed for the view that man is the master of his destiny and that society can be shaped and controlled by social engineering. But there are complications. We must apply engineering to social institutions. Yet it is hard to think of applying it to decisions. And we find that institutions are really a combination of normative laws and natural laws. "There are important natural laws in social life also. For these the term 'sociological laws' seems appropriate. . . . In institutions normative laws and sociological laws are closely interwoven,¹ and it is therefore impossible to understand the functioning of institutions without being able to distinguish between these two" (vol. i, pp. 56, 57).

There is such a dualism in institutions that Popper says different things about them. At first he uses "normative laws" and "social institutions" as equivalent. He says that institutions are norms or standards which we adopt and for which we are morally responsible. But he sometimes speaks of them as machines that need intelligent supervision, or as fortresses

¹The phrase "closely interwoven" covers a good many difficulties, and hardly makes the "dualism" clearer.

which must be manned. His main view seems to be that they are *instruments* which "we" may use for good or evil.

When he is speaking of them as something for which we are morally responsible, he equates institutions with conventions and so with normative laws and so with norms. "Norms and normative laws can be made and changed by man, more especially by a decision or convention to observe them or to alter them, and it is therefore man who is morally responsible for them; not perhaps for the norms which he finds to exist in society when he first begins to reflect on them, but for the norms which he is prepared to tolerate once he has found out that he can do something to alter them. Norms are man-made in the sense that we must blame nobody but ourselves for them" (vol. i, p. 51).

Here, and throughout the book, Popper is ruthless with "man" and "we". "Social institutions have been made by man" may mean only that they have arisen in the histories of human societies, or that their development is a development of human and social activities. It may mean also that they are not "fixed" as, say, human anatomy is. But this would not mean that they have arisen because anyone decided to create them, or that they persist—when they do—because anyone has decided to maintain them. Nor does it give ground for saying that "the responsibility for them is entirely ours". To say that "man" is morally responsible for anything is meaningless; just as it is to say that "man" has made a decision. But this sort of confusion helps Popper to combine a historical with a voluntarist view of society (and to hold that man makes his history, which is a history of his making although his making is not made).

But the passage has a further interest. It is not at first sight clear why dualism should be as important for social science as Popper says it is. There can be no social engineering unless normative laws or social institutions can be made and changed by man. But machines can also be made by man, and we have changed the face of the earth; and these are not norms. So why cannot social science hold that normative laws can be made and changed, without holding to a dualism of norms and facts? Popper gives one answer when he explains that to say we make norms means that we are morally responsible for them—"that we alone carry the responsibility for adopting them". The earth is not responsible for the changes wrought in its face, but we are responsible for the changes in the society in which we live. Theories of social engineering have been criticised on the ground that the "engineer" must be subject to the influences he is trying to control. But this does not alter his

responsibility. He is responsible even for the ways in which those influences—existing norms—affect him. And if he tries to alter them, the way in which he does this depends entirely upon him; it is his responsibility. Social engineering is possible if you recognise this character of normative laws or institutions—this sort of "dependence on us" which they have; and it would not be possible otherwise.

This account of what is meant by "making" normative laws or institutions leaves the analogy with mechanical engineering rather thin. But I do not think Popper could hold to social engineering without it.

Still, when he is emphasising the instrumental character of institutions and comparing them with machines, this feature of their dependence is left more in the background. "Institutions are always made by establishing the observance of certain norms, designed with a certain aim in mind. . . . Like machines, they need intelligent supervision by someone who understands their way of functioning and, most of all, their purpose, since we cannot build them so that they work entirely automatically" (vol. i, p. 56). "The engineer or the technologist approaches institutions rationally as means that serve certain ends . . . as a technologist he judges them wholly according to their appropriateness, efficiency, simplicity, etc." (vol. i, p. 19). Here he mentions insurance and a police force as examples. But he would clearly regard political institutions, penal systems, educational institutions, trade unions, banking institutions, scientific institutions and so on, in the same way.

I see no reason to believe that all institutions have been "designed with a certain aim in mind". Why should one say this of penal systems, for instance, or of many legal institutions? One might argue that they have not been designed at all, any more than language has. But anyway, as they exist now, there is apparently no *one* aim for which people support them. That is why you cannot give *the* reason why we have a public penal system, for instance. Some may advocate punishing criminals because they deserve it, others say it is needed as a deterrent, or they may give other utilitarian or sociological justifications. This is true of statesmen as well as laymen. But the penal system is there and it is carried on in that way, and it is generally supported. Similar remarks might be made of other institutions. Even when they have grown from beginnings which were designed with a certain aim in mind, the design cannot generally have included much of their present development; and it does not account for much. They have been supported and taken over

and developed by influences and new developments that had no part in their beginning. And of course for the most part we simply support such institutions because they *are* there, and not because we have any aim or reason in doing so ; so with property rights, contract, taxation, and so on.

So why talk of "the purpose" of social institutions ? What is the purpose of educational institutions, for instance ? or, if you like, what is "the aim of education" ? Those who work in education may believe they are training people for "life", or making them better able to fend for themselves, or that they are trying to develop personalities, or that they are training them for citizenship, or merely that they are trying to give them good schooling. Such ideas may conflict, and there may be conflicts within educational institutions. But they will go on just the same.

Possibly you can talk of the purpose of a standing army ; and perhaps of a police force. (Though in neither case would this be quite simple.) I do not think you can talk of the purpose of banks, though of course you would go to them for certain things and not for others. Trade unions may become "organs of struggle" or they may become organisations for negotiating with employers and administering relief. I should not know what was meant by their "purpose". And what is the purpose of the theatre ?

It might be answered that the purpose of the theatre is to produce drama ; as it might be said that the purpose of universities is to carry on academic work. These answers would be disputed. And in a sense they are denying that there is any purpose. But such answers suggest standards of good work or of serious work in these fields. And it might be argued that unless there is concern for these standards the institutions may die out or lose any distinctive character that they have. I do not know whether this is true. But in any case it is a different proposition from Popper's view that institutions "need intelligent supervision".

There are conflicting tendencies in the working of any institution. But there are common ways of working there too. Otherwise the institution could not go on. And this makes it possible for those engaged in them to discuss and formulate policies for institutions (even though some opposition may remain to any declared policy). But that does not mean that the institutions are "means" which "serve the ends" of those engaged in them. Banking institutions are not merely instruments of those engaged in their operation. These people may make

decisions in the course of their work and may contribute to the framing of policies. But these are *banking* policies, policies of the institutions. They are not statements of ends that banking institutions are to be used for. And similarly elsewhere.

This is obscured by Popper's statement that "the functioning of even the best institutions will always depend, to a considerable degree, on its personnel. Institutions are like fortresses. They must be well designed *and* manned. . . . They cannot improve themselves. The problem of improving them is always a problem of persons rather than of institutions" (vol. i, pp. 110, 111). This idea of "manning" institutions, as men man fortresses or man machines, is misleading. (An army may man a fortress, but do the soldiers "man" the army?) And it leads here to a false distinction between personal problems and problems of institutions. We are told that an individual might improve an institution by working hard and setting a good example. I doubt if Popper means just this. Yet apart from this improvement of institutions is not a matter of individual decisions and individual conscience.

And in suggesting that the institution is controlled by those who man it, and that their plans and norms and decisions are not controlled by it—almost as if the working of the institution itself had nothing to do with decisions and projects, as if they were no more part of that working than they are of the working of a machine—Popper is also implying that just as the effect of the machine, what it accomplishes at any time, depends on the use we put it to, so it is too with institutions. Yet the contrast between the work a machine does and the influence of a social institution is really greater than the analogy. And for reasons similar to those which interfere with the notion that institutions are manned. You can use a bulldozer for various things, or you can leave it in the garage. But with most institutions it is not like that. The sort of influence they have is largely independent of any plans we may have for them, or any use we may wish to put them to. And this is just because they *are* institutions and are not machines. They are features or forms of social existence, not instruments of it. New institutions may develop—and existing institutions may change—with the development of machines. So with the development of printing, telephones, means of transport, wireless, motion pictures and many others. But even so, there is no control of the institutions parallel to the control of the machines.

It is sometimes said of radio that "radio is all right; it all depends on what you do with it". But it is not simply that

"what you do with it" is limited by the special conditions of broadcasting. Radio is *there*, and it affects the lives of people in ways that do not depend upon policies of the board of governors. The fact that broadcast material, of whatever sort, comes into the homes in this way; the fact that people want to have it always on, as a background to what they are doing; that music is "on tap", to be turned on and off; that broadcasting makes public utterances something different from what they were—these and countless other features of it—including the fact that people cannot do without it—influence public and private living and the development of norms and "needs" and attitudes. The fact that people have become dependent upon radio and feel lost without it means that its influence is something more than that of an instrument which "we" may use to exert our good or evil influence.

When Popper says that institutions "need intelligent supervision", he thinks chiefly of supervision by those with political power. (That is who "we" are, or should be.) And in much of his discussion it is mainly political institutions he has in mind.

But political control never wholly determines the development of other institutions; though of course it influences them. And political institutions are not just instruments themselves. They influence the character of political activities and decisions. This holds, first, of the institution of state power altogether ("all power corrupts"). There is, I think, no "purpose" of the state, no "true end of government". But state power not only makes it possible to enforce particular policies or insure their domination in the society. It also influences the type of policies that are enforced. It affects the life of the society altogether, though with some forms of constitution more, with others less; and affects the sort of policies that arise there. But especially it affects the policies of those who are possessed of it. However strong other influences, say economic tendencies, may be, there is no doubt that state power has a rôle of its own, has tendencies of its own which "catch up" those who arrive at it. Of course these tendencies grow and change with other social developments. But the state is no more just a means or instrument than religion is.

And special political institutions (representative institutions, institutions connected with hereditary monarchy, hierarchical organisation and so on) are not just instruments either. They affect the character of political activities and programmes. The publicity of legislation influences the character of legislation and the sort of control that governments seek to exercise. A custom

of parliamentary manoeuvring and intrigue may influence the way government is carried on and help to form standards of what is permissible among popular activities.

Popper's "technological" view of such institutions is in line with the Marxist view of politics which he criticises.

Of course he cannot hold that institutions are through and through manipulated. That is why he says that there are "important sociological laws connected with the functioning of social institutions". But he holds that "these laws play a rôle in our social life corresponding to the rôle played in mechanical engineering by, say, the principle of the lever" (vol. i, p. 56). And he will not admit that the formation of policies and decisions is *part* of the working of institutions. Decisions always depend on "us" who "supervise" them.

He seems to think that otherwise we should have to say that "there is no escape" from the tendencies of existing institutions, and that institutions can never be "reformed". But that would be so only if we overlooked the ways in which institutions interact, and the ways in which the working of any institution may be interfered with and altered by developments from without.

To say that men's activities are largely shaped by the institutions they work in, is not to say that any man's activities are wholly shaped by the working of any *one* institution (a branch of scientific research, or trade union work, say), or that influences from elsewhere may not operate in him as powerfully. It is partly because they do, that we find interactions and rival tendencies within any institution. These differences help to make the history of any institution contingent¹ (as other social developments do also). But it is no help in understanding them if you say that men's consciences speak differently, and leave it at that.

In any case, you do not control the development of an institution by "improving" or reforming it. Engineers may make a series of improvements in the design of a machine; and then the way the machine develops depends on the engineers. This is partly because the machine will not show important developments without them. But it would be a more relevant analogy here to say that the way *engineering* develops depends on the engineers.

Now Popper seems to think it does. His reason for thinking that we can control the development of institutions and progressively improve them seems to lie mainly in his view that in science

¹ This "contingency" does not imply indeterminism. The point is that the outcome depends on what happens, and there is not one outcome which is "necessary". See P. H. Partridge, "Contingency", *The Australasian Journal of Psychology and Philosophy*, April, 1938.

we have an example of an institution which controls its own development and insures its own progress. So he thinks that if you introduce the methods of science into other institutions, and especially into politics, they will be sure of progress too. We may control our destiny if only we are scientific.

If in engineering, or in any science, the methods employed do not lead to a solution of the problems, the methods themselves are criticised. And they are criticised by the methods common to scientific inquiry. This criticism is possible—as in fact the maintenance of scientific method is possible—because of the social character of science; because of the fact that scientific work is always connected with scientific institutions—laboratories, periodicals, congresses—in which many different workers are engaged. It is in these institutions that the standards of objective criticism grow up and live (vol. ii, pp. 205 ff.).

No doubt this publicity and criticism of methods does help to maintain certain standards of scientific investigation. But these standards may be maintained while others change. Attention may come to be directed to certain features of experimental work at the expense of others. And in particular, there may be a change in the sort of problems that are regarded as important. There is nothing in the social character of scientific institutions or in their devotion to experimental techniques to prevent this. Judged by certain standards, science may degenerate, however great the "objectivity" that is maintained in it. This seems to have happened as science has been dominated more and more by technology and by "practical" requirements.¹ There has been a change in the dominant interest and in the character of the work in scientific institutions. And this sort of change cannot be "corrected" by applying "scientific method".

The neglect or disregard of the degeneration of science is connected with the view that science is all a matter of "the method". This is a view that Popper explicitly shares. It is fundamental to his view that the development of science is self-controlling. But it is a naïve sort of view. It is like confusing morality with precision.

¹ Anderson remarks that in recent times " 'scientific advance' has been largely bound up with the decline of inquiry, that modern science does not exemplify disinterested inquiry. Its spirit has been 'practical', it has been concerned with 'getting things done', with facilitating transformations and translations, not just with finding out what is the case and with the 'criticism of categories' that that involves." *Australasian Journal of Psychology and Philosophy*, December, 1945. Professor Heath has said that with us technology plays the rôle that magic does in primitive societies.

You do not control the development of technology by keeping it technological either. The same can be said of anything that Popper calls "social engineering". And in this case there is not really even the sort of control which the sciences do have. Popper thinks you have begun to introduce engineering into social institutions when you have public control through free criticism, as in science; and when the institutions employ "the methods of trial and error, of inventing hypotheses which can be practically tested, and of submitting them to practical tests" (vol. ii, p. 210). If politicians began "to look out for their own mistakes instead of trying to explain them away . . . this would mean the introduction of scientific method into politics, since the whole secret of scientific method is a readiness to learn from mistakes" (vol. i, p. 144). But free criticism has not the function in social affairs that it has in science. And experimenting and learning by mistakes are not the same here either. These points are both connected with the fact that controversies in social affairs are not about the solution of problems, as they are in science. If we speak of "social problems", that is something different.

Public criticism need not be anything like science. Consider literary criticism, for instance; or ethical criticism. Popper might say literary criticism is not criticism of public policy. But neither is scientific criticism. And he has not shown any clearer analogy in the one case than in the other. In fact, policies are criticised on *various* grounds. And the criticism may well be moral.

"Criticism", then, is not one thing. Men criticise in different ways and by different standards. And policies are defended in different ways and with different sorts of reasons. Scientific institutions function as they do because scientists agree as to the sort of evidence that justifies a conclusion or upsets it. But the sort of thing that justifies a social policy to some people may be no justification at all to others. (Compare the pacifist reaction to the justification of going to war; or the other way about. Or consider discussions as to whether strike-breaking is justified.)

Criticism may lead men to alter policies. And reasons may lead men to adopt them. But often they do not. When they do it is not like science. Arguing for a policy is not like establishing a theory, and raising objections to a policy is not like criticising a theory. In any case, if "public control through free criticism" means control by all citizens, this is unlike science because there are not common standards and methods of criticising social policies.

Popper seems to think that "potentially" there are. He

thinks this follows from the social nature of argument and of reason. "We owe our reason, like our language", he says, "to intercourse with other men"; and so "we must recognise everybody with whom we communicate as potentially a source of argument and of reasonable information". This "establishes what may be described as 'the rational unity of mankind'" (vol. ii, p. 213).

But we do not owe our reason, nor our language, to intercourse with *all* other men. We do not assume the same sort of argumentation or the same standards of criticism in all connexions. Nor do all men argue alike, especially about social matters. And there is nothing in the social character of argumentation to suggest that they ever will.

Men are led to policies, as they are to social movements or "causes", by other factors than arguments. The influence is likely to be the other way. The movements in which they are associated do much to determine their standards and ways of arguing. Popper recognises this when he speaks of the institutional or social character of scientific thinking. And it is not scientific reasoning that leads men first to take up science. Men enter different movements without reasons, and even without deciding to. And the different views they voice on social matters do not finally rest on reasons either.

So men may well hold to their views and proceed by their standards, no matter what arguments they meet. And if "social problems" are conflicts of social policies and movements, there is no ground to think that argument will "solve" them. Discussion may be important. It may clarify issues—bring out "what is involved". This is sometimes needed before people can decide what attitude to take to some proposal. In general, discussion may make reactions less ambiguous (though it may work the other way). It may alter decisions, too. A man may wonder whether his decision was the right one (where to say he was "mistaken" would mean that he would have chosen differently if he had seen more). And you can influence the decisions of others, in certain cases, if you make the issues clearer to them. But this may not lead to a decision in your favour. And it will not remove all conflicts.

Public criticism may further publicity in social affairs and help to bring out what the various aims and movements are. For this reason it is favoured by some movements and discouraged by others. But this publicity will not settle any problem, in the sense either of resolving the conflict or discovering what the outcome will be.

"The method of discussion" sometimes refers to the conference table, and negotiations. These discussions consist largely in sounding views or demands, and seeing what concessions may be made. This sometimes leads to "an arrangement which all parties accept"; and then a "solution" has been reached. But this "general acceptability" is not like the objectivity of science. It depends on the way demands are pressed and what the parties are willing to concede in order to reach an understanding. You may say they wish to avoid conflict, and so their procedure is "reasonable". But this does not play the part of public control in scientific institutions.

Popper says the "critical rationalism" he advocates "suggests the idea that nobody should be his own judge, and it suggests the idea of impartiality". And "this is closely related to the idea of 'scientific objectivity'" (vol. ii, p. 225).

But granting that there are analogies between judicial procedures and scientific objectivity, what has this to do with political controversy? In the courts it is concerned with the effort to determine the facts of the case, and see how they stand in relation to the law. Even so it does not control or determine the *development* of law. One would not speak of scientific objectivity when a judge assesses the importance of claims and interests. In fact, on these questions judges *do* enter political controversy. And while they are not pressing personal considerations—social conflicts are not personal disputes anyway—they are voicing a particular school of thought or current of opinion on social matters. There is no "impartiality that is closely related to scientific objectivity" on such issues. And we should not know what was meant by saying that there was.

This bears on the further point, that you cannot count on settling such differences by appealing to experience. Popper knows that what he calls "social experiments" can never be used in social policy as physical experiments are used in engineering, if only because they are not framed so that they can be accurately repeated. But the main point is that in social matters the experiments do not decide the issue. If you speak of learning from experience here, it is a different sort of "learning". It means being made wiser, and you expect to see the result in conduct and in future policies. It is not like the case in which a scientist learns more about the behaviour of some material. This is the point of Popper's "dualism of facts and decisions", or part of it. And in speaking of the "analysis of the consequences of a moral theory" he says it "has a certain analogy to scientific method. . . . But there is a fundamental difference.

In the case of a scientific theory, our decision depends upon the results of the experiments. . . . But in the case of a moral theory we can only confront its consequences with our conscience. And while the verdict of experiments does not depend upon ourselves, the verdict of our conscience does" (vol. ii, p. 220). The same fundamental difference would hold for any adoption of a policy, I suppose. But scientific objectivity surely rests on the fact that in science the experiments *do* decide. And if there is nothing like that in social affairs, or in the settling of social problems, then what has scientific method to do with their solution?

For Popper, however, the real social problems are not conflicts; for these are not fundamental. The real problems are problems of improvement. The aim of social engineering is to "improve matters", "improve the lot of man" and "improve civilisation".

"Improvement", like "the common good", implies an all-embracing social aim or movement. It is a matter of furthering the cause of society as a whole. Popper speaks of the "aim of civilisation" (vol. i, p. 1). Social engineering is just the scientific way of furthering this aim. And "piecemeal engineering" takes a no less "monistic" view of society than "total engineering" does. It plans to improve society as a whole—to make it a more "rational" society—even though it will do this one step at a time. It is the cause of all mankind.

But we do not know what sort of enterprise this would be. As if there were some definite form of activity which was working for society; as if "furthering society" meant anything. Yet if that means nothing, then neither does "improving society".

If there are conflicting ways of living, then no sort of work is working for society.

If there were not rival ways of living¹, if there were not conflicting movements, there would not be society as we know it. Any way of living is social. And accordingly it is involved in interaction and rivalry with others. This is characteristic of social existence, and we should not call anything social without it.

Humanitarianism is not a policy for society as a whole, in the sense of being a policy for all movements. It is a policy for protecting the weak; Popper calls it "protectionism". It pretends to universality by being a policy for all *men*, by being

¹ This conception of "ways of living" I have taken mainly from Anderson. Wittgenstein uses the phrase in a somewhat different, but I think related, connexion.

concerned about their "lot"; and thus by disregarding different movements or ways of living.

With humanitarianism the dualism of decisions and facts appears in society too. And we find a distinction between those who decide and those who are protected (because they are too weak to decide).

This is not society controlling its own development. It is the domination of society by a particular group. (Whether you call it science is a matter of wisdom in advertising.) And in proportion as men do participate in running their own affairs, they will come in conflict with humanitarians and with the reasonableness of social engineers.

The idea of a "social technology" rests on confusions about "dependence".

You cannot deduce principles and policies from the facts of science. And you cannot deduce the future from "the nature of historical development". But it does not follow that the future depends on what we decide. Nor does it follow that the principles we adopt depend only on us—unless that is just a tautology. (Popper repeats "it is always *we* who decide", and he seems to think something important follows from this.) Generally we do not *adopt* principles at all. And the working of institutions does not depend upon what principles we decide to adopt. There is some voluntary activity in the functioning of institutions. So there is in language. But we do not make the language we speak. Nor does its persistence depend on our decisions. Neither do the activities for which policies are put forward—industry, education and the rest. Policies are put forward in the day's work.

And although you cannot deduce policies from facts, this does not point to a special realm in which special sorts of "laws" hold. And there is no special science—a "practical" science—of such laws.

III.—WILL THE FUTURE BE LIKE THE PAST?

BY FREDERICK L. WILL.

I.

IN the elaboration of arguments in the last two hundred years for and against scepticism concerning induction, one central point at issue has been that concerning the "uniformity of nature" and the necessity of assumptions about that uniformity in all inductive reasoning. To this point the sceptics have again and again recurred, following the precedent of Hume, in their arguments to show the overall doubtfulness, the absolutely irremediable lack of cogency of inductive arguments in general; and to this point also have recurred their opponents in their endeavours to refute these same sceptical conclusions. The question which the sceptics have raised concerning the uniformity of nature is expressed partially and in non-technical language in the question of the above title, "Will the future be like the past?"

There is an advantage of simplicity and clarity in expressing the question thus with reference to the future, as Hume himself did in the *Enquiry*, even though quite clearly the question of the validity of inductive procedures is by no means restricted to conclusions about future things or events. The question about induction which both the sceptics and their opponents have attempted, each in their own way, to answer is a question about all those procedures in which, in science and everyday life, we use the evidence of observed facts or states of affairs to conclude concerning unobserved ones. The unobserved matters about which the conclusion is drawn may be in the past or present as well as in the future. In each case the basic procedure is the same. On the basis of observations now being made or already made which reveal that certain things have a specified characteristic, or set of characteristics, it is concluded that other events or things of the same kind, though unobserved, in the past, present, or future, have these same characteristics. And the question raised about this procedure is likewise the same. By what right do we conclude from the observed to the unobserved? Granted that all the cases which have been tested have shown hydrogen to be inflammable, by what right do we conclude on this evidence

that under similar conditions hydrogen has always been, is now, and will continue to be inflammable ?

Abstracting from this more general question about induction it is permissible, in the interest of simplicity, to consider the question in but one of its temporal phases, namely that referring to the future. This phase may justly be viewed as a test case of the general question. To the extent that our inductive conclusions about the future can be justified, so can our inductive conclusions be justified generally. If inductive methods can be shown to be all completely without justification when their conclusions refer to the future, this conclusion can be easily generalised to apply to all inductive conclusions whatsoever ; and if inductive procedures can be justified in so far as they refer to the future, by exactly the same procedure, and with exactly the same kind of evidence, they can be justified when their conclusions are drawn concerning the present and the past. It may be noted also that even with this restriction of reference solely to the future the question of inductive validity still bears directly upon the question of the validity of scientific laws, which is the aspect of induction which has always appeared to philosophers as most provocative as well as fundamental. For these laws are statements about the course of nature, the connexions between things and events, not only as they are in the present, or have been in the past, but also as they will be in the future.

II.

The standard argument for complete inductive scepticism, for the belief that inductive procedures have no rational and no empirical justification whatever, is the one stated in a small variety of ways in the writings of Hume. If one consults these writings in search of an answer to the question of inductive validity one finds the same clear answer argued first in technical detail in the *Treatise*, secondly compressed into a few non-technical paragraphs in the *Abstract of a Treatise of Human Nature*, and thirdly, presented again in a non-technical but somewhat fuller version in a chapter in the *Enquiry Concerning Human Understanding*. There is no basis whatever for any conclusion concerning future matters, according to this argument ; there is no way whatever in which such conclusions can be established to be certainly true or even probable. For in the first place no such conclusion can be demonstrated by reasoning alone, since they are all conclusions about matters of fact, and since it is the case that the denial of any assertion of a matter of fact is not self-contradictory. But if one gives up the rationalistic aspiration to

demonstrate propositions about matters of fact or existence *a priori*, and turns instead to experience, this road, though apparently more promising at first, likewise ends by leading one exactly nowhere. Clearly no statement about future matters of fact can be established by observation. Future things cannot be observed. Any event or state of affairs which can be observed is by definition not in the future. The only recourse which remains therefore is the inductive procedure of employing present or past observations and inferring therefrom the nature of the future. But this procedure to which we are all forced, or rather, to which we all should be forced, if we did not, in company with the animals, use it naturally from birth, is in the light of close analysis completely indefensible. For such reasoning assumes, and is quite invalid without the assumption, that the future will be like the past.

"... all inferences from experience suppose, as their foundation, that the future will resemble the past, and that similar powers will be conjoined with similar sensible qualities. If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion."¹

Will the future "resemble the past"? Or be "conformable to the past"? These are the ways in which in the *Enquiry* Hume expresses the question concerning the uniformity of nature, restricting to its reference toward the future the question which already had been asked in broader terms in the *Treatise*. There, without the temporal restriction, it is argued that the principle of inductive conclusions, the principle upon which reason would proceed if reason determined us in these matters, is "*that instances, of which we have had no experience, must resemble those, of which we have had experience, and that the course of nature continues always uniformly the same*". (Bk. I, Pt. III, Sect. VI.)

However the principle is stated, the argument about it remains the same. It is indispensable, if inductive conclusions are to be justified; but just as it is absolutely indispensable, so, and this is the measure of our logical misfortune, it cannot be established as certain or as probable in any way. It cannot be established by any demonstrative argument. For it is clearly an assertion of a matter of fact, and therefore the kind of assertion whose denial is non-contradictory and conceivable.

¹ *Enquiry Concerning Human Understanding*, Sect. IV, § 32. The arabic numerals in references to this work indicate the marginal sections in the Selby-Bigge edition of 1902.

"That there are no demonstrative arguments in the case seems evident ; since it implies no contradiction that the course of nature may change, and that an object, seemingly like those which we have experienced, may be attended with different or contrary effects. May I not clearly and distinctly conceive that a body, falling from the clouds, and which, in all other respects, resembles snow, has yet the taste of salt or the feeling of fire ? Is there any more intelligible proposition than to affirm, that all the trees will flourish in December and January, and decay in May and June ? Now whatever is intelligible, and can be distinctly conceived, implies no contradiction and can never be proved false by any demonstrative argument or abstract reasoning *à priori*." (*Enquiry*, Sect. IV, § 30. Cf. *Treatise*, *loc. cit.*)

Any further doubts about the doubtfulness of this principle which is the main-spring of inductive inference are quickly disposed of. No one who understands the principle with its reference to unobserved instances will suggest that it can be simply observed to be true. It is still true that one cannot observe the future, or the unobserved generally. And, finally, no one who has a sound logical conscience and appreciates the indispensability of the principle to induction generally will tolerate the suggestion that the principle may be established by inductions from experience. Such a process would be circular.

"It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future ; since all these arguments are founded on the supposition of that resemblance."

And again :

"... all our experimental conclusions proceed upon the supposition that the future will be conformable to the past. To endeavour, therefore, the proof of this last supposition by probable arguments, or arguments regarding existence, must be evidently going in a circle, and taking that for granted, which is the very point in question." (*Enquiry*, Sect. IV, §§ 32, 30.)

On this point the *Treatise* (*loc. cit.*) and the *Abstract* speak with one voice. One final quotation from the latter may serve to summarise the conclusion.

"'Tis evident that *Adam* with all his science, would never have been able to *demonstrate*, that the course of nature must continue uniformly the same, and that the future must be conformable to the past. What is possible can never be demonstrated to be false ; and 'tis possible the course of nature may change, since we can conceive such a change. Nay, I will go farther, and assert, that he could not so much as prove by any *probable* arguments, that the future must be conformable to the past. All probable arguments are built on the supposition, that there is this conformity betwixt the future and the past, and therefore can never prove it. This conformity is a *matter of fact*, and if it

must be proved, will admit of no proof but from experience. But our experience in the past can be a proof of nothing for the future, but upon a supposition, that there is a resemblance betwixt them. This therefore is a point, which can admit of no proof at all, and which we take for granted without any proof." (*Abstract*, 1938 ed., p. 15.)

All inductive inferences about the future depend for their validity upon a fundamental principle which, it now turns out, we have not the slightest reason for believing to be true but which nevertheless we simply take for granted. We have, accordingly, no reason for believing any of these inferences; they are all a matter of custom or habit, or, if one prefers more recent terminology, of "animal faith".

III.

It would be more promising in respect to logical neatness and precision for one to consider the alleged circularity of all inductive procedure, which is the central point of the above argument, while using as a test case some specific scientific law or principle rather than some affirmation as vague and imprecise as that the future will resemble the past. But, for the purpose of analysing the sceptic's views and meeting the arguments by which these views have been defended, such a procedure would have this deficiency, that no matter what specific scientific generalisation were chosen, one reply which would be sure to be made would consist of an appeal beyond this generalisation to some general beliefs about uniformity, some general Principle of Uniformity which, it would be urged, is assumed somehow in the inductive establishment of this and other scientific generalisations. Since the sceptical argument has been presented in terms of general Principles of Uniformity, and it is in these terms that it is alleged to demonstrate the logical circularity of all inductive reasoning, it seems worth while to attempt to deal with this argument, if one can, in the same terms—in terms of some alleged Principle of Uniformity for which it has been claimed in recent philosophy that it does serve as a wide and basic inductive assumption.

In his *Treatise on Probability*, J. M. Keynes attempts to formulate a set of principles which, if assumed to be true of a given area of subject-matter, would justify, in accordance with the principles of probability, the employment of inductive methods in that area. One of the principles which he discusses, the simplest and at the same time the one for which it seems, at first view, most plausible to contend that it may serve as a broad inductive assumption, is the one to which he gave the name of the "Principle of the Uniformity of Nature". This Principle

affirms that nature is uniform in a specific way ; and that is in respect to position in space and time. "It involves", writes Keynes, "the assertion of a generalised judgment of irrelevance, namely, of the irrelevance of mere position in time and space to generalisations which have no reference to particular positions in time and space" (p. 226. *Cf.* also pp. 255-256, 263, 276). It is this principle, he argues, which

"... supplies the answer, if it is correct, to the criticism that the instances, on which generalisations are based, are all alike in being past, and that any generalisation, which is applicable to the future, must be based, for this reason, upon imperfect analogy. We judge directly that the resemblance between instances, which consists in their being past, is in itself irrelevant, and does not supply a valid ground for impugning a generalisation" (p. 256).

It is, however, difficult to interpret this so-called Principle in such a way that it makes a statement which is both definite and is not at the same time refuted in some areas of experience. Keynes observes that what this Principle affirms is "that the same total cause always produces the same effect" (p. 248), and this is so ; but the difficulty here is that of giving a definite meaning to the important adjective "same" as it applies to causes and effects. Unless there is a specifiable meaning applicable to causes in all fields, the formula "same cause—same effect" is not a univocal principle affirming the presence of a specific kind of uniformity in every area of natural phenomena. Yet, when one sets out to specify just what kind of sameness is meant when this formula is employed, one discovers that there is a great variety of interpretations of this word in different fields of inquiry, and that what determines whether a given set of circumstances is regarded as the same cause, for example, varies from field to field, depending upon the nature of the subject-matter as that is revealed in the various generalisations which are regarded as established for that subject-matter. These generalisations exhibit among themselves great differences in scope and precision, as well as in the degree of confidence with which they are accepted. They include, for example, the generalisations about the coherence and constancy of properties which are involved in our belief in and distinctions among various kinds of material objects. And they include the more precise generalisations, frequently expressed in the form of mathematical equations, which would normally be referred to as "scientific laws", as well as the broader generalisations formulated in various accepted Principles and Theories. When this is understood, when one sees that in the employment of the Principle of Uniformity what

determines the kind of sameness to which the Principle affirms that differences in mere position in space and time are irrelevant is the specific generalisations, the laws, principles, and so on, which have been established in that field, one is in a better position to understand this so-called Principle and its alleged employment as a general inductive assumption. In any given field the Principle of Uniformity states that mere differences in space and time are irrelevant in just this sense, that there are certain generalisations, true of this field, which describe the conditions under which certain objects exist and events occur, and in which differences in mere position in space and time make little or no detectable difference. That this is so, accordingly, is not an inductive assumption in that field in the sense that it is specified and made before all inductive inquiry in the field. It is an inductive assumption in the more usual sense that conclusions of previous experience and inquiries are available for employment in any field as bases for further investigation in that field.

The primary purpose here is not to elucidate and specify the variations of meaning which such a Principle or formula must undergo if it is to be understood as applying to the great variety of fields in which inductive inquiry is carried on, to the great variety in the kinds of uniformity which the generalisations in these fields describe. The primary purpose is to inquire whether the sceptics are right in insisting that it is impossible to provide genuine evidence for beliefs about uniformity, or whether, on the contrary, it is possible to furnish empirical evidence for these beliefs which, in its employment, does not involve circular reasoning. It is granted that what the Principle of Uniformity affirms in any field, if "Principle" it may be called, is that there is uniformity in that field in this sense and no other; that there are certain specific generalisations which apply to that field and in which mere differences of position in time and space are regarded as irrelevant. In the light of this interpretation of uniformity the question briefly is, how can such a broad affirmation be confirmed or verified by induction without circularity?

IV.

For purposes of simplicity, in order to secure the clearest statement of the argument in the fewest words, it will be useful in what follows to abbreviate the statement of this Principle of Uniformity and also to consider it only in reference to time. If it can be shown that what the Principle affirms concerning the irrelevance of time in specific generalisations can be confirmed inductively, it can also be shown in exactly the same way tha

it is possible to confirm the Principle in its spatial reference also. So abbreviated and restricted, the Principle asserts that, in the specific way just defined, differences in time make no difference. Can this interpretation of the assertion that the future will resemble the past be confirmed ? What, if any, is the evidence for it ?

It follows directly from the interpretation which has just been given of this principle what the evidence for it must be. If the Principle affirms no more for any given area of fact than the validity in that area of certain generalisations which are uniform with respect to space and time, then the evidence for the Principle must be whatever evidence there is for these particular generalisations. This includes all the observations in the past and present which confirm the presence in that area of the uniformities of which these general statements speak. Belief in the uniformity in a given area is not something which is specifiable apart from the laws, principles, and other generalisations regarded as established in that area, but is itself belief in just the kind of uniformities which these generalisations describe and define. If it is correct, then, to say of any generalisation, *e.g.* of any scientific law, that it is confirmed or verified by empirical evidence, is it not correct to say that, to that extent, there is evidence for belief in the uniformity of nature ?

The sceptic's answer to this question repeats that final rejoinder of Hume. Granted that there is empirical evidence which has been used to establish various scientific laws, all that it is evidence for, he insists, is the assertion that *in the past* these laws were true, that in the past differences in time have made no difference. This evidence is absolutely worthless for inferences which speak about the future unless it is possible to assume that the future will be like the past. But stop ! That is part of what one is trying to show, that is, that mere differences in temporal position, whether past or future, make no difference in these laws of nature. That the future will be like the past means, among other things, that in the future these laws will hold, that in this specific respect differences in time will make no difference. This cannot be inductively confirmed, the sceptic is saying, because any inductive argument for it assumes it and is therefore, as evidence, completely valueless.

One major source of the plausibility of the sceptic's reasoning lies in the analogies which knowing the future easily suggests and in terms of which one is apt to think and be misled. Is this not, one may ask, like any case of sampling ? And must one not take care, when reasoning inductively from samples, that

one's samples are fair? If a scientist reasons concerning the behaviour of oxygen, nitrogen, or hydrogen on Mars, if such elements there be on Mars, on the basis of the known behaviour of these elements on the earth, he is assuming that in some respects the samples of the elements on the other planet are like those we have here. Similarly in reasoning about the future behaviour of these elements on the basis of present and past behaviour one must assume that future samples of these elements will be like present and past ones. Now if it is the case that past samples may be regarded as evidence about future ones only upon such an assumption, then no examination of past samples, however extensive, can be regarded as yielding evidence for the assumption itself. Any reasoning which did attempt to employ such samples as evidence for the assumption would be forced to use the assumption as a principle in the reasoning and would therefore beg the whole question at issue.

A physical representation of the kind of analogy presented here might be as follows: Suppose that there was somewhere in the world an enclosure beyond which it was impossible for anyone ever to go or to make any observations. Nothing could be seen, heard, or in any other way perceived beyond the border. The territory beyond the enclosure, forever barred from human perception, is the land of Future. The territory within the enclosure is the land of Present and Past, but since it is overwhelmingly the latter, it all goes under the name of Past. Now suppose that someone within the enclosure is interested in some proposition about the way things behave beyond the enclosure, say, a simple and homely proposition about chickens, to the effect that beyond the enclosure roosters fight more than hens. And he wonders what evidence, if any, there is for this proposition. Of course he cannot observe this to be true. He must base it upon his observation in the land of Past; and if he does base it upon the observed fact that roosters in the land of Past fight more than hens, he must assume that in this respect chickens beyond the enclosure behave like chickens within it, so that, knowing that in the latter area roosters are the more pugnacious, he may employ this knowledge as evidence that things are this way also in the former area. This is an assumption which no empirical evidence, confined as it must be to evidence in Past, can be employed to support. Any attempt to support it with such evidence must itself assume that in respect to the phenomena involved differences between Past and Future are negligible; and since that is exactly what the reasoning is attempting to establish, the process is patently circular.

This is the kind of metaphor which makes friends, and influences people, in this case, to draw the wrong conclusions. There are several faults in the analogy. The chief one is that, as represented, the border between Past and Future is stationary, while in the temporal situation it is not. To duplicate the temporal situation in this respect the analogy should represent the border as constantly moving, revealing as it does constantly, in territory which has hitherto been Future, hens and roosters similar as regards difference in disposition to those already observed in Past. The matter of evidence for the proposition about hens and roosters is then also different. If this proposition is in a position analogous to the beliefs about uniformity which are represented in modern scientific laws, the situation is something like this. Previously inhabitants in Past had drawn more sweeping conclusions concerning the difference between the disposition to fight of male and female chickens. They have discovered recently that in respect to young chicks and pullets this generalisation did not hold. They have therefore revised the proposition to exclude all the known negative instances and speak only and more surely of the behaviour of hens and roosters, meaning by these latter terms just fully grown and developed female and male chickens.

So far as there is any record, chickens in Past have verified this rule ; so far as there is any record, every chicken revealed by the ever-receding border has likewise verified it ; so far as there is any record there has not been one negative instance. Is it not the case that the inhabitants of Past do have evidence for the proposition that all chickens obey this rule, those already in Past, which they call " Past-chickens ", and those also which are not yet in Past but which will be subsequently revealed by the moving border, and which they call not unnaturally " Future-chickens " ? They have a vast number of positive instances of the rule, and no negative instances, except those in respect to which the rule has already been revised. In view of the present evidence that in all cases, year after year and century after century, the progressively revealed chickens have verified and do verify this rule, must one not conclude that the inhabitants of Past do have evidence for this proposition, and that anyone is wrong who says that they have actually no evidence one way or other ?

The sceptic, however, is still prepared to argue his case, and his argument, in terms of the present analogy, has a now familiar ring. That the inhabitants of Past have no evidence whatsoever about the behaviour of Future-chickens, he will insist ; and

as grounds he will point out that although the border does progressively recede and reveal chickens like those previously observed in Past, these are really not Future-chickens. By the very fact that they have been revealed they are no longer Future-chickens, but are now Past-chickens. Observation of them is not observation of Future-chickens, and any attempt to reason from such observation to conclusions about Future-chickens must therefore assume that Future-chickens are like Past-chickens. For the inhabitants of Past, in these efforts to know the land beyond the border, this is both an inescapable and unknowable presumption.

What should one say of an argument of this kind? Only through some logical slip, one feels strongly, would it be possible to arrive at such a conclusion. One would have thought that the receding border was a matter upon which the inhabitants of Past may legitimately congratulate themselves in the light of their interest in learning what Future-chickens, when they become Past, are going to be like. If the border had not yet begun to recede they would indeed be in an unfortunate position for securing such knowledge. But happily this is not the case. The border is constantly receding. And granting that it will constantly recede, revealing always more of the land of Future, and even granting also that this means that there is an inexhaustible area to be revealed, the inhabitants of Past are in the fortunate position that with the progressive recession they may learn more and more about chickens, Past and Future. They may derive hypotheses from their experience of what has already been revealed and proceed further to test these by the progressive revelations of Future, in the light of which they may be confirmed, refuted, or revised. The sceptic's argument amounts to the assertion that all this apparent good fortune is really illusory and that the sorry Pastians are actually in no better position with respect to knowing about Future-chickens and Future-things generally than they would be if the border never moved at all. For the movement of the border does not reveal Future-chickens, since Future is by definition the land beyond the border. No matter how much or how little is revealed, by the very fact that it is revealed and on this side of the border it is not Future but Past, and therefore, since the land of Future always is beyond observation, no empirical method can produce any evidence that what is in that land is in any way similar to what is not. That this rendering of the sceptic's position, though in the language of the above metaphor, is undistorted and fair may be seen by consulting the words of an illustrious modern sceptic and follower of Hume,

Bertrand Russell. In his chapter, "On Induction", in *The Problems of Philosophy*, Russell expressed the matter in this fashion :

"It has been argued that we have reason to know that the future will resemble the past, because what was the future has constantly become the past, and has always been found to resemble the past, so that we really have experience of the future, namely of times which were formerly future, which we may call past futures. But such an argument really begs the very question at issue. We have experience of past futures, but not of future futures, and the question is : Will future futures resemble past futures ? This question is not to be answered by an argument which starts from past futures alone. We have therefore still to seek for some principle which shall enable us to know that the future will follow the same laws as the past" (pp. 100-101).

This is the central difficulty urged by Hume, Russell, and others in arguing that there can never be any empirical evidence that the future will be like the past. Empirically, in Russell's language, it is possible to have evidence only that this has been true of past and possibly present futures, not that it will be true of future futures. It is the situation in the land of Past all over again. There are generalisations which are constantly being confirmed by experience. But every time a confirming instance occurs it is nullified as evidence by the argument that it is not really a confirming instance at all. For by the fact that it has occurred it is an instance of a past future, and therefore it tells nothing whatever about future futures. In treating of the land of Past it was suggested that there is involved in arguing in this manner a logical slip or error. It remains to investigate how this is the case.

V.

Suppose that in 1936, to take but a short span of time, a man says that in the above-defined sense the future will be like the past. In 1936, if he could somehow have shown that 1937 would be like 1936, this would have been evidence for his statement, as even a sceptic would admit. But in 1937, when he does establish that 1937 is like 1936, it has somehow ceased to be evidence. So long as he did not have it, it was evidence ; as soon as he gets it it ceases to be. The constant neutralisation of the evidence which is effected in this argument is effected by the same kind of verbal trick which children play upon one another in fun. Child A asks child B what he is going to do to-morrow. B replies that he is going to play ball, go swimming, or what not. Thereupon A says, "You can't do that".

B : Why not ?

A : Because to-morrow never comes. When to-morrow comes it won't be to-morrow ; it will be to-day. You can never play to-morrow ; you can only play to-day.

Again, if a prophet announces that next year will bring a utopia, and if each succeeding year, when the predicted utopia does not come, he defends himself by pointing out that he said "next year" and that obviously this is not next year, no reasonable person would pay much attention to him. Such a person would realise, on a moment's reflexion, that the prophet is being deceptive with the word "next". In 1936, "next year" means "1937" ; in 1937 it means "1938". Since every year "next year" means a different year, a year yet to come, what the prophet says can never be verified or disproved. If in 1936 he meant by this phrase 1937, as he sensibly should, then this statement can be verified or refuted in 1937. But if, when 1937 comes, he insists that he did not mean 1937, but "next year", and if in 1938 he again insists that he did not mean that year, and so on, then what he seems to be meaning by "next year" is the $n + 1$ th year where n is the ever-progressing number of the present year. No one should alter his present activities or his plans for the future on the basis of such a prediction, for, of course, it really is not a prediction. While in the form of a statement about the future it does not say anything about the future, anything which could possibly be true or false in the infinity of time, if infinity it is, which yet remains to transpire. For what the prophet is saying is that utopia will come next year, and by his own interpretation of the words "next year" he is affirming that next year will never come. In other words, at the time which never comes, and hence when nothing occurs, a utopia will occur. This is not even sensible speech ; it is a contradiction.

In a similar though less simple way those who employ the sceptical argument about uniformity to show that there is no evidence whatever for any statement about the future are being themselves deceived and are deceiving others by their use of expressions like "next", "future", "future future", and "past future". The man who said in 1936 that the future would be like the past, that mere differences in temporal position make no difference in the behaviour of nature which is described in scientific laws, meant, as he sensibly should, that this was true of the years 1937, 1938, and so on. He said something of the form "all A 's are B 's" and it has been possible since 1936 to examine the A 's of 1937 to 1946 and to see whether what he said is con-

firmed or disproved by the available evidence. If, however, now that it is 1946, and all this evidence is in, he should remark that since it is 1946 the years 1937-46 are no longer future and therefore have ceased to be evidence for the proposition, then he is guilty of using, or rather abusing, the word "future" in the way in which the prophet in the previous example was abusing the word "next". For the only basis for his contention that the observed *A*'s are not confirming evidence, or what is the same thing, that they are confirming instances only if one assumes quite circularly that the future is like the past, is in his illusive use of the word "future". Time does pass, and, because it does, the present is a constantly changing one; and the point of reference for the use of words like "future" and "past" is accordingly different. The correct conclusion to be drawn from the fact that time passes is that the future is constantly being revealed and that, in consequence, we have had and shall have the opportunity to learn more and more accurately what the laws of nature's behaviour are and how therefore the future will be like the past. But this sceptical man has his eyes fixed in fatal fascination upon the movement of time, the constantly changing present. And seeing that, as the present changes, what was once future is not now future, but present, and will shortly be past, he is led to draw the conclusion that after all, for any present whatever, the future is forever hidden behind a veil.

Now in a sense this is true, and in a sense it is not. And it is the confusion of the two senses which makes the trouble. The one sense, the kind of future which is forever hidden behind the veil of the ever-moving present, is not the kind of future of which this man began to speak. The kind of future of which he began to speak was the future of 1937, 1938, and so on; the kind of future years or futures which do become present and then past. This kind of future is constantly being revealed; in this sense of "future" the *A*'s of 1937 to 1946 are positive instances confirming our beliefs about scientific uniformity. But the sceptical man, although under the impression that he is still talking about the future in this sense, the sense of things which have not yet happened but which may happen, is actually talking about the future in the other sense; at least he is saying things which are true only if the word is interpreted in this other way. That is why he is deceived. He is unaware that the meaning of the word has changed. He thinks when he asserts that there is no evidence that the future will be like the past, and that all one has evidence for is that past futures have resembled their

pasts, that he is using this crucial word in the way in which he began, in the way people are constantly using it to make sensible observations about the next and future months, years, and so on. But he is not using it in this way, and the key to this particular puzzle about knowledge of the future lies finally in realising that he is not. Like a prophet who says that a utopia lies around the next corner, a corner which, no matter how many corners we turn, and no matter how many utopias or hells on earth we find in turning, is still the next corner, like him the sceptical man is talking about a future which by definition will never come. In this sense of the word the statement that the future will be like the past no longer means, as it originally did, that the years, or rather events in the years 1937, 1938, and so on, have a certain characteristic. It means instead that in a future which is always future, in years which never come, events will have this characteristic. In short, he is now saying that at a time which never comes differences in time will make no difference, that at a time when no events occur (for if they did it would be present and not future) certain types of events will obey certain fairly uniform laws.

There are then, two senses of the word "future" to be carefully discriminated. They may be designated future-1 and future-2. In the sense of future-1, when one speaks about the future he is speaking of events which have not occurred, of things which do not exist, but of events and things which, with the constant movement of the line of the present, may sometime occur or exist. In the sense of future-2 when one speaks about the future he is speaking of the time which is always beyond the line of the moving present, of a time which never comes, which by definition can never come, no matter how far the line of the present moves.

Interpreted in the sense of future-1 there are beliefs about the way the future will be like the past, which have been and are being confirmed constantly by the uniform experience of countless positive instances in everyday life and in vast areas of science. Because they have been thus confirmed they constitute a vast set of assumptions with which scientists and laymen approach their problems in the various areas to which the confirmation applies. It is when these beliefs are interpreted in the sense of future-2 that the sceptics are able to produce a plausible argument to show that these beliefs are not empirically confirmable and are hence unknowable. But, when these are so interpreted, the argument has no bearing whatever, favourable or unfavourable, upon the soundness or success of any inductive inquiry. It asserts that specific types of events occur in specific ways, not

in 1945, 1955, or any other year which will ever come, but in a year and a time which will never come. That one cannot produce empirical evidence for the statement that at a time which never comes and when no events occur, events will occur in these rather than other ways, may be readily admitted. But this is no good reason for scepticism. No scepticism is entailed by this admission so long as it is made with the understanding that there is evidence about the other kind of future, the kind which will come and in which events do occur. And it is this latter kind of future only, of these two kinds, with which our inductions are concerned. It is this kind of future alone about which our inductions predict, and this kind alone which will ever confirm or refute our assertions. It is, therefore, not sensible for anyone to worry, in his inductive reasoning, about the character of a future which by definition can never come, about his incapacity to prove that if this future did come, which is itself a contradictory condition, it would have this or that character. And no one would worry about such a thing for an instant unless misled by fallacious reasoning such as that which has just been exposed. No one, for example, in the present international puzzlement or uncertainty, wastes a moment worrying about the kind of future wars, future-2 wars, which by definition cannot happen. The kind of future wars which one does worry about and is concerned to prevent is the kind which may come, which can occur in some present. And just as a future war which by definition cannot occur is not a future war in any sense which is pertinent to our present international deliberations, so generally a future event which by definition can occur in no present is not a future event in any sense which is pertinent to the validity of our inductive reasoning beyond the present and past, either in science or in everyday life.

IV.—DISCUSSIONS.

ON A CERTAIN MODAL PROPOSITION.

I WANT to discuss a certain logical principle and its applications. The principle in question may be formulated roughly as follows: If P is a proposition over whose truth-value we have voluntary control, and if Q is an arbitrarily chosen proposition, then it will be possible in general so to determine the truth-value of P as to make it materially equivalent to Q ; but if Q , in particular, happens to be *not-P*, such an equivalence will be impossible. More generally, and without reference to voluntary control, we may say: If P is a contingent proposition and if Q is arbitrarily chosen, then it is not logically possible that P should be materially equivalent to Q for all choices of Q ; in particular, this will be so when Q is chosen as *not-P*.

A failure to recognise this simple principle is the source of certain logical puzzles which I wish to discuss. These occur in a variety of forms, but all involve a violation of the logical principle here stated. Let us suppose, for example, that we write down a series of statements such as,

*To-day is Monday,
The earth is flat,
It is raining,
Etc.,*

and let us suppose, further, that we agree to put a plus sign to the left of the sentence if the proposition expressed is true and a minus sign if it is false. This way of symbolising truth and falsity will be possible unless we add to the list such statements as,

*There is a minus sign to the left,
There is no plus sign to the left.*

Since each of these assertions involves precisely the same difficulty, we may consider the first one only. There we agree to make a certain proposition P true, namely, that there is a minus sign to the left, if and only if a certain proposition Q , namely, that there is no minus sign to the left, is true. But since Q has been chosen as *not-P*, the convention laid down has become impossible. It is to be noted, moreover, that the two propositions here cited are of the first order, since they are concerned solely with marks of a certain shape and not at all with the significance of these marks. Distinctions of type are therefore irrelevant; and the difficulty is, in fact, insuperable. There is also no logical puzzle remaining. For it is clear that the use of a symbol will make some proposition true which would not have been true had that symbol not been used.

All we have to do, therefore, is to choose some proposition which will be true if the sign of falsehood is used and false if this sign is not used. Thus, to take a somewhat different example, it is sometimes true that I am holding up my right hand; and I might use this gesture to mean something. I might indeed use it consistently, though not truly, to mean that I am not holding up my right hand.

An example similar to the one cited above, which, as will be explained presently, might easily be confused with a genuine logical paradox, is as follows. Suppose I utter a series of statements and that to each of them you agree to say "Yes" or "No" according as what I say is true or false. This plan will work successfully unless I utter a statement such as,

You are going to say "No".

Here again we are to understand my statement as merely acoustical, and as having nothing to do with what the sound may mean and nothing to do with distinctions of type. It is simply that you agree to make a certain proposition P true, namely, that you will utter the sound "No", if and only if the contradictory Q of what I say is true; and I then choose Q as *not-P*.

The reason why this dilemma is easily confused with a genuine logical paradox, which requires something like a theory of types for its resolution, is that *You are going to say "No"*, in the sense of uttering a certain sound, is easily confused with *You are going to say no*, in the sense of expressing disagreement. This latter statement is not about words and gives rise to a form of the paradox of Epimenides.

There are certain semi-facetious examples in the popular tradition which also rest on a disregard of the principle laid down above. Thus, a pelican said to a fish, *If you tell me what I am going to do, I will not swallow you, but if you don't I will*; and the fish replied, *You are going to swallow me*. Let P be the proposition *I am not going to swallow you*, and let Q be the proposition *You are going to swallow me*. Then Q will have been chosen as *not-P*. Yet the agreement was that P should be equivalent to Q .

I believe that the modal proposition here formulated and its application to the dilemmas cited are matters generally understood by logicians. But philosophers, and even some logicians, seem often confused about the points involved. I have therefore thought it worth while to set out explicitly the principle governing the dilemmas in question and to distinguish these dilemmas from standard logical paradoxes.

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ON PARADOXES OF THE TYPE OF THE EPIMENIDES.

PARADOXES of the type of the Epimenides occur in a variety of forms. They arise in the case of such statements as *All rules have exceptions*, *Everything that I am now saying is false*, etc., as well as in the Epimenides itself.

It is the purpose of this note to explain the mechanism by which these paradoxes occur and to provide a necessary condition for their avoidance. The purpose of the note is explanatory, not technical, and no criterion is provided by the use of which a formalism free of the defect here indicated might be set up.

Corresponding to each significant or meaningful general statement there must exist an equivalent elementary statement. Thus to *All men are mortal* there will correspond the conjunction of *A is a man and mortal*, *B is a man and mortal*, etc., throughout the list of all men. This equivalence will be material and not strict. For it is well known that no general statement can supply its own instances, and also that no list, even when complete, can state its own completeness. Yet there must exist such a corresponding elementary statement, possibly null, in the case of each meaningful general statement. And even when, as in certain paradoxical assertions, the two statements cannot be equivalent, we may still speak of the corresponding elementary statement in an obvious sense. It is to be noted, moreover, that by the corresponding elementary statement I do not mean a conjunction or disjunction made up of components of the form *X is a man implies that X is mortal*, where *X* varies over its entire range. Thus in the case of *All that I am now saying is false*, if that is all I say, there will be only one component of the corresponding elementary statement, namely, the contradictory of the statement itself.

This last example provides a simple illustration of the principle I want to lay down. I have said that corresponding to each significant or meaningful general statement there must exist a materially equivalent elementary statement. But if the only component of the corresponding elementary statement is the contradictory of the general statement itself, an equivalent elementary statement cannot exist. In general, if *S* is a universal statement, and if the corresponding elementary statement is of the form *s₁ and s₂ and s₃ . . . and not-S*, where *s₁, s₂, s₃, . . .* are all true, then it will be impossible that the general statement and the elementary one should be equivalent. Thus if *S* is *All rules have exceptions*, we shall have *not-S* as a component of the corresponding conjunction.

The necessary condition which I want to lay down for the significance of a general statement is, then, that an equivalent elementary statement should exist. It will be found in the case of all statements or pseudo-statements which give rise to paradoxes of the type of the Epimenides that an equivalent elementary statement is logically impossible. Such general statements are therefore in principle unverifiable.

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VIRTUE, OBLIGATORINESS, AND RIGHTNESS.

IN an article which appeared recently in this REVIEW,¹ Professor John Laird distinguishes two sorts of ethics: "act-ethics" and "agent-ethics". For the former, the central ethical problem concerns the morality of the act. The latter, on the other hand, considers the act ethically significant only when taken as a manifestation of moral character, and thinks of ethics as dealing primarily with the morality of the agent. Thus J. S. Mill can speak of utility—taken explicitly as a criterion of right and wrong which stands independently of motive—as "the foundation of morals"²; where Leslie Stephen can assert that "morality is internal", that "The moral law . . . has to be expressed in the form, 'be this', not in the form 'do this' "³ and James Martineau, similarly, that "it is *persons* exclusively . . . that we approve or condemn"⁴—that "what we judge is always the *inner spring* of action, as distinguished from its outward operation"⁵.

Professor Laird evidently believes that these two views, when juxtaposed, present a difficulty for the philosophy of ethics. For they apparently indicate contradictory conceptions as to the proper task of ethics. Should ethics concern primarily the act, or the agent? Or must it always take both into account?

I believe that we do find these divergent conceptions of ethics, and that this does present at least a surface difficulty to the philosophy of ethics. Yet to attempt to resolve this difficulty in the manner suggested by the above questions seems to me a serious mistake. It occurs to me that, rather than attempting to eliminate this difference in approach to ethics, we can enrich ethics by recognising and exploiting it. That is, we might well take these two conceptions as indicating separate—though of course not unrelated—branches of ethics, rather than as rival theories of the true nature of the discipline. More particularly, we may discern two—and as I shall indicate, three—distinct problems of theoretical ethics (and corresponding problems for practical ethics). These are problems of philosophical analysis, and concern distinct philosophical concepts: namely, virtue and rightness.

Virtue, however we may analyse it in more detail, is generally agreed to be an excellence of character. Thus we may speak, somewhat elliptically it is true, of a virtuous man, though not of a virtuous tool, or a virtuous event. The ethical problem dealing with

¹ *Act-Ethics and Agent-Ethics*, vol. iv, no. 218 (April, 1946), pp. 113-132.

² *Utilitarianism*, ch. ii.

³ *The Science of Ethics*, ch. iv, 16. (Also quoted by Laird, *op. cit.*)

⁴ *Types of Ethical Theory*, 2nd ed., vol. ii, p. 21.

⁵ *Op. cit.*, ii, p. 24.

virtue, then, falls within the branch of ethics we may designate, with Professor Laird, as agent-ethics. It has to do with the character of moral agents.

The analysis of rightness, as I conceive this concept, has to do with a different matter entirely. We are no longer interested in the agent as such, though we, of course, acknowledge the agent (I do not mean necessarily a moral agent) as a necessary condition of the act. Given the act, ethical theory of the sort now under discussion investigates its rightness. In other words, rightness, as here conceived, can be determined independently of motives or intentions. It consists of the worth of action as such, just as virtue consists of the excellence of moral character as such.

That some such concept is necessary to ethics (whether or not we call it rightness—though I think ordinary usage justifies this terminology) is discovered in the attempt to do without it. To show this, let us suppose for the moment that whether an act is to be judged correctly as right in any ethical sense—i.e., as possessing positive value in any sense relevant to ethics—depends, to some extent, upon the agent's motives in performing it (and thus cannot be determined entirely independently of motives, as my 'rightness' *can* be). That is, it depends upon the goodness or badness of those motives, and, in so far upon the virtue or viciousness of the agent. Yet notice that one element, at least, in the goodness of the agent's motives consists in the agent's desire to do what is, in some ethical sense, right. This desire presupposes a right and a wrong which is entirely independent of the given motives.¹ That is, it presupposes the possibility of a course of action which is "right" in my restricted sense of the term. The concept 'right' can be said, then, to enter necessarily into the agent's moral deliberation, explicitly or implicitly. Thus, even if we attempt to do without the concept 'right' and turn our attention to the inner motives underlying outward action, we are still brought face-to-face with this very concept—which, therefore, no comprehensive ethical theory can ignore.

We see that ethics must accept as a subject of analysis the concept 'right', conceived as a value-character of actions which is entirely independent of underlying motives. The branch of ethics dealing with this analytical task—let us say act-ethics—is to be conceived as separate from agent-ethics.

Why include analysis of rightness within the field of ethics at all, we are asked,² since by hypothesis it does not directly concern moral character? This procedure is sanctioned, we reply, by actual

¹This point is necessary to my argument. It seems evident upon inspection of 'the desire to do what is right'. It is made evident, also, by noticing the circularity that would occur were this presupposition of an independent right *not* acknowledged. For we should then have to say: a motive is good only if it aims at right acts; but an act is right only if it springs from good motives.

²See Laird, *op. cit.*, pp. 123-124.

practice in ethics, and by philosophical usage of the term "ethics". Indeed, W. K. Frankena, in *The Dictionary of Philosophy*,¹ includes evidently the whole of axiology within ethics. And such an admittedly ethical controversy as is found in the case of G. E. Moore and Charles L. Stevenson concerning analysis of 'right'² could not be forced into conformity with a conception of ethics which demanded direct reference to moral character as a necessary mark of ethical theorising.³

However, I believe there is need also in ethics for a value-concept which applies to action viewed in the light of the moral character of the agent in question. Were we to rely entirely upon the concepts 'virtuous' and 'right', we should be able to judge only the agent, on the one hand, or action, on the other—never action *considered as* the action of a given agent, or the agent *considered as* acting in a certain way. This limitation is unnecessary—indeed is not respected even in our everyday moral judgments.

We may call this third necessary ethical concept "obligatoriness" (or "ought-ness"). To say that an act is obligatory is to say it ought to be performed by the agent in question. This is genuinely a third concept and is by no means to be confused with 'rightness'. The latter, by definition, is entirely independent of virtue, whereas obligatoriness is not.

Indeed, I might say by way of rough delineation that an obligatory act is one which the given agent would perform, were he acting virtuously. Now to act virtuously involves, as we have seen, doing what one thinks is right; yet what one thinks is right may turn out actually to be wrong. That it should so happen to be wrong, especially where the decision to act had issued from painstaking moral deliberation, certainly would not justifiably call forth blame or the charge of violation of obligation—indeed the agent should, in such circumstances, be praised for acting virtuously, even if wrongly. A person probably ought, sometimes, to do what is wrong, and ought not to do what is right.⁴

We may say, in conclusion, that there are three ethically necessary concepts: virtue, obligatoriness, and rightness. These are distinct,

¹ Ed. D. D. Runes.

² See Stevenson's article in the Moore volume of the *Library of Living Philosophers* (Ed. P. A. Schilpp, Northwestern University, Evanston and Chicago, 1942) and Moore's reply thereto (*op. cit.*, pp. 536-554).

³ Furthermore, our discussion has made it evident that analysis of rightness necessarily arises in analysis of virtue, and thus concerns moral character indirectly if not directly.

⁴ I am not here saying a person ought *deliberately* to do what is wrong. Even keeping this in mind, the statement may still be paradoxical. This is perhaps due to the common use of "right" as synonymous with "obligatory". The term is not always so used, however. Witness the familiar sort of situation where someone has met with misfortune from a natural, apparently unmotivated, cause and we say, "It is not right that this should have happened to you."

though interrelated. Only a moral agent may congruously be called virtuous, his action (taken as his) obligatory, and action (as such) right. A man, in so far as he is virtuous, does what he ought to do—i.e., performs obligatory acts; these acts he takes to be right, though they may not be. Whether or not the acts are right depends not at all upon the motives of the agent in performing them. Analysis of rightness constitutes a separate branch of ethics, namely, act-ethics; analysis of virtue and obligatoriness (the two are interdependent, as we have seen), a second branch, namely, agent-ethics. These should not be looked upon as divergent conceptions of the true nature of ethics, but as supplementary conceptions, indicating different parts of the over-all discipline.

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V.—CRITICAL NOTICES.

The Philosophy of Bertrand Russell. [Library of Living Philosophers, Vol. V.] Edited by PAUL ARTHUR SCHILPP. Evanston and Chicago: Northwestern University, 1944. Pp. xv + 815. \$4.00.

It is not easy to write a satisfactory review of any of the immense volumes in this series. Each consists mainly of a number of essays about various aspects of the work of a single distinguished living (though sometimes moribund) philosopher, written independently of each other by as many writers. These are preceded by a short autobiography of the philosopher concerned, and followed (if he has survived and is still capable of writing) by an article in which he deals with certain points raised by the various essayists. Fortunately in the present case there can be no question about the continued existence and the amazing vitality of the hero of the volume.

The points which interested me most in Lord Russell's sketch of his mental development are the following. He tells us that John Stuart Mill was 'so far as is possible in a non-religious sense' his godfather. He speaks of the great influence which his grandmother, widow of the first Earl Russell and a member of the Scottish border-family of Elliot, had on him. She was a strongly religious unworldly woman of the world, plainly one of the 'salt of the earth'. Two texts, which she wrote on the fly-leaf of the bible which she gave to Lord Russell when he was twelve years old, have, he says, profoundly influenced his life 'and still seemed to retain some meaning after I had ceased to believe in God'. They are: 'Thou shalt not follow a multitude to do evil', and, 'Be strong and of a good courage . . . for the Lord thy God is with thee whithersoever thou goest'.

A great event in Lord Russell's life, as in that of Hobbes, was making acquaintance with Euclid. Fortunately this happened in Russell's case when he was eleven years old, and not, as with Hobbes, in late middle life. So Lord Russell did not get a bee in his bonnet about squaring the circle; that part in his life was destined to be played by politics, practical and theoretical, and not by geometry.

By the age of fifteen Lord Russell had reached by his own reflexions a theory of mind and matter very much like that of Descartes. At about that age he became passionately interested in religion and examined seriously the arguments for free-will, immortality, and theism. This process went on for three years, and resulted in his rejecting successively free-will, immortality, and the existence of God. Hitherto he had accepted the last of these dogmas on the basis of the argument for a first cause. This argument collapsed

for him, when, at the age of eighteen, he read in Mill's *Autobiography* that James Mill had pointed out that the question: 'Who made God?' could always be raised. (I should think that belief in God must already have been fairly thoroughly undermined if it caved in on just that occasion.)

Lord Russell gives a most attractive picture of his life as an undergraduate at Cambridge, with such friends as McTaggart, Lowes Dickinson, Charles Sanger, the brothers Llewellyn Davies, the brothers Trevelyan, and G. E. Moore. Seen from the standpoint of our wretched present and our forbidding future, it is indeed a paradise of civilisation and decency and not unreasonable hopefulness. I can remember enough of its last phase, immediately before the catastrophe of the first world-war, to re-echo Lord Russell's saying: 'For those who have been young since 1914 it must be difficult to imagine the happiness of those days'. (If it be objected that I, and *à fortiori* Lord Russell, view the past too exclusively from the standpoint of the relatively well-to-do, I will admit that England has achieved since then a more equally distributed state of squalor, discomfort and insecurity.)

Lord Russell mentions an exciting moment in 1894, when he was an Absolute Idealist and a great admirer of Bradley. He had gone to buy a tin of tobacco, and, returning to his rooms by way of Trinity Lane, he suddenly had a flash of apparent insight which led him to throw the tin up and catch it, exclaiming: 'Great Scott, the ontological argument is sound!'

In 1898 he was led to abandon idealism. The process started with his own reflexions on the nonsense that Hegel wrote about mathematics, but was accelerated by the influence of Moore. He reckons the most important event in his intellectual development to be his visit to the International Congress of Philosophy at Paris in 1900, where he met Peano and his pupils. Thereafter he began to work with Whitehead in applying their method to the philosophy of mathematics.

From 1901 to 1905 Lord Russell was wrestling with the contradictions which had emerged in the notion of classes. In 1905 came one of his most important contributions to logic, the theory of definite descriptions, which offered *inter alia* a possible way of escape from these paradoxes.

This led to the general problem of the meaning of words and the significance of sentences, to which Russell has returned again and again. He says that the more he has thought about it the less convinced he has become that logic can be made completely independent of psychology. It is therefore particularly important to delimit the problems which *can* be dealt with by purely logical methods.

Lord Russell says that his works on theory of knowledge convey the impression that he is more sceptical and subjectivist than he really is. His actual position is that he believes (though without

good grounds) in the world described by physics as well as in that which he immediately experiences at any moment. He finds it obvious that any knowledge which he has of the former must be based on 'inference', in a wide sense, from the latter. What he would like to do now is to discover and formulate the principles of inference which would be required in order to derive his beliefs about the world as described by physics from what he immediately experiences. If these principles could be formulated clearly, one might accept them or reject them or remain doubtful about them; but what would be proved is that *either* they or solipsism must be accepted. (It is worth remarking that this programme is a perfect example of the Transcendental Method, which that 'disaster' Kant introduced into philosophy.)

Russell remarks that history has always interested him more than anything else except philosophy and mathematics, and that his experiences in China taught him to think in long stretches of time and not to be reduced to despair by the evils of the present. He concludes his autobiographical sketch with the following reflexions. He has always ardently desired 'to find some justification for the emotions inspired by certain things that seem to stand outside human life and to deserve feelings of awe'. Among these he includes the sublime in external nature, and systems of timeless truth such as pure mathematics. But, as a result of his philosophical studies, he has had to conclude that there is nothing in the existent world which he 'can value, outside human beings, and, to a much less extent, animals', and that pure mathematics is 'nothing but tautologies'. On the other hand, he has derived great intellectual satisfaction from the progress which has been made in his lifetime in logic and those branches of philosophy which have proved amenable to the technique of logical analysis.

I must now say something about the essays by other writers, and about Lord Russell's comments on certain points in some of them. There is an excellent general account of Russell's philosophy by Mr. Weitz, based on a close study of the texts. Mr. Weitz tries to establish two points, viz., (1) that the fundamental element in Russell's philosophy is the method of analysis; (2) that this has been exemplified in four ways, which may be called 'ontological', 'formal', 'logistical', and 'the resolution of incomplete symbols'. Russell speaks of this account of his philosophy as 'in the main . . . completely just', and contents himself with correcting a few mistakes on matters of detail. In particular he restates the theory, set forth in the *Enquiry into Meaning and Truth*, that a determinate shade of colour is a particular which may occupy several different positions in sensible space at the same or different moments of experienced time.

There are two essays which deal explicitly with Russell's logic, one by Hr. Reichenbach and the other by Hr. Gödel, and two others which may fairly be classed under this heading, viz. Mr. Feibleman's

'Reply to Bertrand Russell's Introduction to the Second Edition of *The Principles of Mathematics*' and Mr. Black's 'Russell's Philosophy of Language'.

Hr. Gödel's essay, which is highly technical, is concerned mainly with Russell's treatment of the logical paradoxes. It came late into Lord Russell's hands and he merely gives a respectful acknowledgment of it.

Hr. Reichenbach discusses first Russell's view of the relation of logic to arithmetic, and distinguishes between the logical definition of the natural numbers and the physical application of them in counting and mixing collections of material objects. Then he gives a brief discussion of the Theory of Types. Next he discusses the Law of Excluded Middle and sings the praises of his Dulcinea '3-valued logic'. Then he asks Russell to state his present views on Induction, and to say whether he regards 'sense-data statements' as *absolutely* certain or only as having the highest attainable degree of certainty. The main points in Lord Russell's answer are the following. (1) It is possible to reject the Law of Excluded Middle and to construct logical systems on that basis. (2) Everyone in fact believes and will go on believing many propositions which are not verifiable, and the old 2-valued system is needed if we are to include unverifiable truths. (3) If we are unwilling to pretend to doubt propositions which we cannot in fact help believing, the result of logical analysis is to show that far more independent premisses are involved in our knowledge than we had suspected. Among such premisses will be one or more principles by means of which Induction can be justified. 'I do not see any way out of a dogmatic assertion that we know the inductive principle, or some equivalent; the only alternative is to throw over almost everything that is regarded as knowledge by science and common sense'.

The main importance of Mr. Feibleman's 'appeal to the Old Whig from the New' is that it calls forth from Lord Russell a rather detailed account of his present views about universals. The gist of it is that, although all other universal-names can be replaced by particular-names and the word 'similar' or some equivalent, this is as far as one can go. The word 'similar' remains a universal-name. Every minimum vocabulary adequate to describing the world of ordinary experience must contain at least one universal-name; but this word may function only as an adjective or a verb, it need never be used as a substantive. This condition which is imposed on every adequate *description* of the world 'seems to imply something about the world'. That is the sense in which Lord Russell still believes in universals.

Mr. Black's essay on Russell's Philosophy of Language is elaborate and careful. He discusses three main topics, *viz.*, (1) the consequences of applying the theory of types to ordinary language, (2) the search for 'ultimate constituents' of the world, and (3) the

notion of an 'ideal language'. In connexion with the theory of types he constructs a new paradox, and considers how Russell's theory would have to be recast in order to deal with it. In reference to the doctrine of 'ultimate constituents' he considers and rejects Russell's principle that, if a proposition is to be intelligible to a person, all its constituents must be objects of acquaintance to him. Finally he condemns the search for an 'ideal language' as the unprofitable pursuit of an ideal which is in principle unattainable. Both Mr. Black's arguments and Lord Russell's answers to them are too complex to be summarised here. Whilst admitting the force of some of the arguments, Lord Russell claims that Mr. Black has seriously misunderstood him on several important matters.

Professor Moore contributes a long and meticulously careful paper on Russell's Theory of Descriptions. According to Moore, Russell intends to assert at least two things. The first can be stated in terms of what Moore calls 'C-sentences' and ' Γ -propositions'; the second in terms of what he calls 'D-sentences' and ' Δ -propositions'. A C-sentence is one of the following form: "The *proposition* 'the instance of ϕ is ψ ' entails and is entailed by the conjunctive proposition 'there is at least one instance of ϕ , there is at most one instance of ϕ , and there is no instance of ϕ -and-not- ψ '". A Γ -proposition is one which would be expressed by a C-sentence. The first part of Russell's theory is that enormous numbers of Γ -propositions are true.

A D-sentence is one of the following form: "The *sentence* 'the instance of ϕ is ψ ' means neither more nor less than that there is at least one instance of ϕ , at most one instance of ϕ , and no instance of ϕ -and-not- ψ ; and anyone who says that it does so will, by so saying, be giving a *definition of its meaning*." A Δ -proposition is one which would be expressed by a D-sentence. The second part of Russell's theory is that enormous numbers of Δ -propositions are true.

Moore thinks it certain that the first part of Russell's theory is true; and that, although this is obvious when pointed out, it was a great achievement of Russell's to observe it. In order to see whether the second part of Russell's theory is true Moore embarks on a very elaborate and subtle description of the nature of definition and of the conditions under which a certain sentence can be truly said to mean neither more nor less than a certain proposition or conjunction of propositions. This seems to me to be much the most valuable contribution to philosophy in the whole of the present volume. At the end of it Moore comes to the conclusion that the second part of the theory is also true. He points out that this is compatible with the falsity of any particular Δ -proposition, and that in fact great numbers of Δ -propositions are false.

Moore holds that there is a third thing which Russell meant to assert. It is that, whilst a *complete sentence* of the form 'The King of France is wise' can be defined in the way suggested, the

constituent phrase 'the King of France' cannot be defined. After an elaborate discussion Moore accepts this also. But he is not prepared to admit that, when such a phrase occurs elsewhere in a sentence, the phrase is never definable. He takes as an example the case of a man who had pointed to Louis XIV and said : 'That is the King of France'.

Next comes a paper by Mr. Wiener on Method in Russell's Work on Leibniz. The only point which I shall mention is one which Lord Russell takes up wrongly, in my opinion. He ascribes to Mr. Wiener the remark that 'since Leibniz's premisses were *false* they could have proved anything' (my italics). He proceeds to refute Mr. Wiener on the assumption that the latter is arguing from the principle that a false proposition materially implies all propositions. What Mr. Wiener actually says (p. 264) is : 'On Russell's analysis, Leibniz's system is *inconsistent* ; therefore Leibniz could have proven any proposition' (my italics).

Then follows a short essay by Professor Einstein on Russell's Theory of Knowledge. Russell treats it with exaggerated respect, but does not profess to understand it. So far as I can make out, it advocates the view that certain categories which the mind brings to the interpretation of the data of sense experience are an irreducible factor in the genesis of knowledge.

The late Professor Laird contributed an interesting critical essay on the main views about the nature of the human mind expressed by Russell in the *Analysis of Mind*. It seems to me doubtful whether there is as much difference between Laird's and Russell's views of the self as the two writers think. Laird says (p. 301) that he thinks "that selves are very peculiar and highly integrated bundles of what Broad calls 'sympsychic' experiences". Russell says (p. 699) that the experiences which are said to belong to a single person are interconnected by certain relations which do not interconnect experiences which are said to belong to different persons. Among these relations he mentions 'remembering or being remembered by' and 'compresence'. Where is the difference in principle ?

Laird made a point which he evidently thought important, but which Russell does not take up. He suggested that reflexive awareness of one's own experiences does not involve a duality of act and object, as, e.g., attending to an external object or inspecting a visual sense-datum ostensibly does. His suggestion seems to be as follows. To say, e.g., that I am aware of seeing my finger is analogous to saying that I am feeling a feeling of sorrow. It is not analogous to saying that I am visually aware of my finger. I must confess that this analogy does not help me to understand reflexive awareness. To say that I am feeling a feeling of sorrow seems to be merely classifying the experience as one of sorrow and not to be making a statement about my awareness of anything.

Laird criticised the notion of mnemic causation as involving too

great a discontinuity between cause and effect. Russell says that he agrees, and would now appeal to modifications of brain-structure.

Two essays which may be mentioned together are Mr. Nagel's on Russell's Philosophy of Science and Mr. Stace's on Russell's Neutral Monism. The former is severely critical of such statements by Russell as that we do *not* see the sun, and that a physiologist looking at another man's brain is in fact seeing *his own brain*. The latter (which seems to me to be an excellent critical account of its subject) is based mainly on the *Analysis of Mind and Our Knowledge of the External World*.

Mr. Nagel's criticisms lead Lord Russell to restate his present views about physics and philosophy. He starts by accepting as practically certain all propositions which a consensus of physicists would assert. If these propositions are honestly accepted, they commit us to accepting the occurrence of unobserved events. In modern physics the fundamental notion is that of event, and the laws (except in regard to quantum phenomena) presuppose that processes are spatio-temporally continuous. This is Lord Russell's ontological basis; his epistemological problem is: 'What sort of relation exists between, *e.g.*, the event called 'seeing the sun' and the sun?' The causal theory of perception must be accepted. It follows from it that we must either cease to use the word 'see' or use it in an unusual sense; for in its usual sense it presupposes naïve realism, and this is false. Russell then explains what he means by saying that a person's visual percepts are 'in' his brain, though not 'parts of' his brain, and why he says it. He remarks that all philosophers have misunderstood his views on this matter and that Mr. Nagel is no exception.

In clearing up obscurities which his theory of neutral monism presented to Mr. Stace Lord Russell says that the theory may best be understood if one starts from Leibniz's monadism and then modifies it in certain ways. The monads are not to be 'windowless' and are not to be 'souls'. Each monad 'mirrors' only a part of the universe. The image of monad B in monad A depends, not only on the relative 'points of view' of the two, but also on the nature of the intervening medium. Again, A mirrors at any moment, not the contemporary state of B, but a state which existed at an earlier moment of neutral time; the difference of date being correlated with the difference of point of view. Lastly, the image which B alone would produce in A may so interfere with the contemporary image which C alone would produce in A that the resultant event in A cannot properly be regarded as an image of either or of both. Russell adds that he holds *both* perceived primary qualities and secondary qualities to be 'subjective' in the same sense; that he agrees with Mr. Stace in holding that there is no *prima facie* objection to psycho-physical dualism, and that certain data characteristic of mind as opposed to matter are observable by introspection. He is inclined to agree that generality is something

which is peculiar to *thought* and not explicable in terms of images and sensations. Lastly, he discusses the criticism that he has failed in his attempt to construct matter 'out of verifiabiles alone'. He answers that this is true if 'verifiable' be taken in the narrower sense of 'capable of being an object of human acquaintance'; but it is not true if 'verifiable' be taken in a wider sense which includes 'inferrible in accordance with the recognised canons of scientific method'.

Mr. Ushenko contributes a paper on Russell's Critique of Empiricism. This is concerned entirely with the doctrines contained in *An Inquiry into Meaning and Truth*. Lord Russell praises the essay, but finds little to say about it just because it contains such an 'unusually large measure of understanding and agreement'.

Mr. Chisholm, who gives his address as 'U.S. Army', writes an interesting essay entitled 'Russell on the Foundations of Empirical Knowledge'. It is concerned with the notion that certain of our experiences are epistemologically primitive and that others are epistemologically derivative in relation to the former, and with the kind of experiences which Russell puts into the one class or into the other. It leads Lord Russell first to state the case *against* this view, and then to develop his own view in answering the argument which he has put up. He argues that, in general, observations are epistemologically prior to laws, although a well-established law may cast doubt on a particular observation that seems to conflict with it; that knowledge of a conjunctive proposition is epistemologically posterior to knowledge of each of its conjuncts; and that a sense-experience is epistemologically prior to the perceptual judgment which is based on it, since it is both logically and physically possible to have precisely similar sense-experiences when the perceptual judgment is true and when it is false.

There follow two papers, one by the late Professor Harold Chapman Brown, entitled 'A Logician in the Field of Psychology' and the other by Mr. Boodin, entitled 'Russell's Metaphysics', of which the less said the better.

Next come two essays which may be taken together. One is by Mr. Buchler on Russell's ethics, and the other by Mr. Brightman on his philosophy of religion. In reply to both Russell tries to make his views about ethics clearer. Both writers find an inconsistency in the fact that Russell feels strongly about what he asserts to be good or to be evil, and yet holds that ultimate ethical valuations are subjective. Russell says that his view is that, when a person seriously says 'X is good as an end', he is expressing a desire on his own part that X should be realised and a wish that other men had similar desires. If you strongly desire that other men should desire something which you yourself desire, where is the inconsistency in expressing that desire vehemently? He feels, however, that this kind of answer will not give complete satisfaction, and he admits that there is one respect in which it does not satisfy

himself. When he expresses an ethical desire he cannot help feeling that the desire which he is expressing 'is *right*, whatever that may mean'. Thus he feels there to be something in moral experience which his own theory of ethics does not account for. But 'while my own opinions as to ethics do not satisfy me, other peoples' satisfy me still less'.

Mr. Buchler twits Lord Russell with lack of *sophrosyne*. Lord Russell gives us to understand that he has no use for *sophrosyne*. One singular reason is that he 'associates it with a secure income'. I suspect that most of the more amiable virtues presuppose a modest competency or something equivalent to it; and contemplation of those persons who have conspicuously lacked *sophrosyne*, from Alexander the Great through Martin Luther to our late dear Führer, suggests that it is not altogether to be despised.

Mr. Brightman, in dealing with Lord Russell's utterances on religion, performs a difficult task with great skill and tact. For those utterances plainly depend very much on the mood of the speaker and the nature of his audience; ranging, as they do, from extremely cheap sarcasm, through the overwrought and intellectually incoherent rhetoric of the *Free Man's Worship*, to moving expressions of feelings which are obviously deep and sincere. He has his reward, for Lord Russell is at his best in the short reply which he makes. Russell remarks that his attitude towards religion is complex because religion covers three topics; *viz.*, a man's serious personal beliefs, so far as they have to do with the nature of the world and the conduct of life; theology, *i.e.* the part of religion with which philosophers as such are concerned; and religious institutions. Russell's attitude is complex because he 'considers some form of personal religion highly desirable, and feels many people unsatisfactory through the lack of it', but cannot accept the theology of any well-known religion, and thinks that most churches at most times have done more harm than good.

I shall do little more than mention the remaining four essays, which are concerned with Lord Russell's views on politics, economics, and education. Mr. Lindeman writes on Russell's Social Philosophy, Mr. McGill on his Political and Economic Philosophy, Mr. Bode on his Educational Philosophy, and Mr. Hook on his Philosophy of History. It will suffice here to say that Mr. Hook's essay is very good indeed; that Lord Russell is very cross with poor Mr. Bode; and that Mr. McGill's paper is one of those pious exercises in Marxian apologetics which make one feel so uncomfortable because they remind one so much of the defensive reactions of the mother of a deformed or mentally deficient child. I cannot resist quoting a delightful passage from Lord Russell's reply to the naughty Mr. Bode, who, he thinks, would not have cared to have Christ as a colleague. (Who would?, I wonder.) "Perhaps something could be done to make people aware what Christ's teaching was. I suggest that clergymen who have occasion to read in church the

parable of the Good Samaritan should substitute for 'Samaritan' either 'German' or 'Japanese'. They would thus restore to the parable its original flavour, which it has entirely lost through the fact that we expect a Samaritan to be good."

I hope I may be excused if I end this review with a personal confession. I was invited by Professor Schilpp to contribute to this volume, and it was with the deepest regret that I felt obliged to decline. At the time I was so much involved in non-philosophical business, undertaken in consequence of the war, that I could not possibly have contributed anything that I should think worthy to be included in a volume in honour of Lord Russell and his philosophy. Professor Laird, at the end of his essay, pays an eloquent tribute to the intellectual stimulus which he derived, as an undergraduate at Trinity, from Lord Russell, and the generosity with which Lord Russell gave his time to personal discussions with his pupils. I was an undergraduate at Trinity along with Laird, and I can most heartily confirm on my own behalf all that he says. There is no one philosopher to whom I owe so much as to Lord Russell, and I recall with delight and gratitude the many hours which I spent in his company, his invariable kindness and hospitality, and the wit and charm of his conversation. No man that I know has altered so little for the worse with increasing years. When I meet him and talk to him now, I can shut my eyes and think myself back in his room in Nevile's Court in those days before 1914, 'the happiness of which it is difficult for those born later to imagine'.

C. D. BROAD.

Kantian Studies. By A. H. SMITH, Warden of New College, Oxford. Oxford: University Press, 1947. Pp. vi + 196. 15s.

THIS work consists of five studies of central doctrines in the *Critique of Pure Reason*, undertaken by Mr. A. H. Smith as prolegomena to the development of the theory which he expounded in his book *A Treatise on Knowledge*, published in 1943. The earlier book consists of a section on Hume's Doctrine Regarding Our Consciousness of Objects, a section on Kant's Theory of Knowledge, and a section devoted to the exposition of Mr. Smith's own theory.¹ The present work provides a more detailed and extended examination of the doctrines studied in the second section—doctrines which comprise Kant's theory of Consciousness and Its Objects, of the Antithesis of the Form and Matter of Intuition, and of Self-Consciousness. It opens with a study of Kant's Doctrine of the Relation between

¹ This may be described as a form of Universalistic Idealism, similar in important respects to that of T. H. Green.

the Forms of Space and Time and Our Consciousness of Objects, studied mainly in the Fourth Paralogism of the First Edition. The second chapter is given mainly to an examination of the Refutation of Idealism in the Second Edition. This is followed by two chapters on the First Edition and Second Edition versions of the transcendental Deduction, and by a chapter on the Antithesis of Phenomena and Noumena. In completion of the work Mr. Smith has included an interesting chapter on Universals and the Form of Intuition in Mathematics in which he studies certain related points in Plato's doctrine of the objects of mathematical study and in Kant's doctrine of the Schematism of the Categories.

It would have been helpful if Mr. Smith had prefaced these detailed studies by a fuller statement than he gives in the Preface of the points where he finds himself in general agreement with Kant, and if he had concluded the work by a summary of the points where he differs from Kant and where he thinks that Kant's theories require amendment and development. The reader will find this help provided in part if he refers to the third section of Mr. Smith's earlier book; without doing so, he may find himself from time to time at a loss in reading the present work, for lack of a general survey of the wood which Mr. Smith has undertaken to explore in portions. This implies that Mr. Smith's book will not be readily intelligible to the inexperienced student of Kant. It not only takes for granted that the reader is familiar with Kant's own statements of his doctrines, but also that he has already considered for himself the main alternatives which Kant's critical inquiries opened up for philosophical thought. But assuming that the reader is familiar with Kant's own formulation of the problems of knowledge he will undoubtedly find his insight into the implications of the critical solution clarified and deepened by a study of Mr. Smith's analysis. This will be in considerable measure due to the fact that Mr. Smith approaches his subject from the standpoint of an independent thinker, and not from that of a commentator embarrassed with the responsibilities of coming to terms with previous or contemporary commentators. The task he has set himself is to elucidate Kant's doctrines by a direct debate with the author through an examination of the relevant texts. In his examination he adopts no hypothesis about their composition nor is he concerned to elicit a consistent theory from them. His method is to put his questions to Kant in connection with each problem that Kant deals with and to look for the answer in Kant's own statements. The result in most cases is to set the particular issues under discussion in a very clear light. As regards the interpretation of the *Critique of Pure Reason* as a whole, the conclusion emerges that Kant is advocating consistently an account of the objects of our knowledge as being in his own words "empirically real" but "transcendentally ideal". With this most interpreters will agree. At the same time Kant's presentation of "empirical realism" is not consistent; and Kant had not fully

thought out the implications of "transcendental idealism". Kant's statement of "transcendental idealism" is embarrassed by his self-defeating attempt to account for self-consciousness on the same basis as he accounts for consciousness of objects. He does not give any satisfactory account of how the mind can acquire knowledge of itself or of other minds; and the Antithesis which he sets up between Phenomena and Noumena does not provide an adequate solution for any problem within the theory of knowledge. With all these conclusions some students of Kant will not be ready to agree; but they will find Mr. Smith's arguments in support of them stimulating and illuminating.

I shall not attempt to discuss the more controversial of Mr. Smith's conclusions systematically. I shall confine myself to examining his study of Kant's Second Edition Refutation of Idealism because it seems to me to contain some of his most interesting and original suggestions, and because the subject of it is so important for our interpretation of Kant's central doctrines. The conclusion of Kant's Refutation of Idealism in the First Edition, according to Mr. Smith's account in his First Section, is that we are able to distinguish between real and imaginary objects because we are able to place the former but not the latter within a single spatial and temporal order. The one comment that is suggested by this is that it does not take account of the essential function which Kant ascribes to judgment in addition to intuition in distinguishing between the real and the imaginary. But, as Mr. Smith recognises, Kant's discussion of the matter cannot be separated from his doctrine of the categories, and requires further consideration in connexion with the Analytic. (Two points in Mr. Smith's first chapter require correction or further justification. On page 3 he distinguishes between "dogmatic idealism" as involving a denial of independent spatial objects "based solely on the antinomies", and a type of idealism advanced "on the ground of the subjectivity of our perceptions without criticism of space and time or any doctrine of their nature". It is the latter position which Kant, according to Mr. Smith, attributes to Berkeley. But in the Second Edition Refutation (B274) Kant ascribes "dogmatic idealism" expressly to Berkeley. The second point concerns the doctrine of "things in themselves". Mr. Smith says on page 5 that "in the Paralogisms section of the *Critique* . . . Kant does not regard the question of things-in-themselves as important for marking the distinctive features of his own idealism". Whatever view we take about the antithesis between Phenomena and Noumena, we should note that Kant himself does think it necessary to point out in his note to A374 that "the things with which we are here concerned are not things in themselves, but appearances only, that is representations").

The weakness of Kant's Refutation of Idealism in the First Edition is, as Mr. Smith points out, that in ascribing the same sort of reality to external objects as to states of consciousness, as being respec-

tively representations of the external sense and of the internal sense, Kant is omitting to observe that both alike as representations or as "contents" are dependent on thought. Kant has only established parity of status between external objects and states of the self as *representations*, he has not established parity of status between external objects and the self as a permanent reality. In the Second Edition Kant attempts to correct his position by arguing that states of consciousness as facts in time require determination through "something permanent in perception". But this "something permanent" cannot be found in the self or any state of consciousness. Therefore it must be external to the self and states of consciousness, and is to be found only in "the existence of actual things which I perceive outside me". Kant gives up the attempt to establish the reality of spatial objects by attributing to them parity of status with states of consciousness, and is in the Second Edition found to be maintaining that "inner experience is itself possible only mediately and only through outer experience" (B277). My own view is that in the Second Edition Kant has come to see that any Refutation of Idealism which retains the assumption that physical objects are dependent on human perception is no more than verbal, and that he is now seriously considering the position that our percipient selves are "determined" in relation to a spatio-temporal order of interacting substances which may be "transcendentally ideal" or phenomenal in relation to universal mind, but is ontologically independent of any human percipient. His reason for this is not that he refuses to admit that the self can be known to be permanent, and so to be the "something permanent" which is necessary for the determination of my conscious states in time. It is rather that he has come to be aware that the states of a percipient self are essentially "intentional" in their reference, and that their continuity and recurrence is dependent on a permanence in the spatio-temporal order which they apprehend. It is of course essential to Kant's argument to maintain that the "something permanent" is neither a state of the self nor the self; and admittedly he does seek to support it by statements which imply the doubtful proposition that we have no consciousness of permanence in the self. But, as Mr. Smith argues, the main reason he gives in the Second Edition Refutation is "not that something permanent is required, and that no permanent can be found in me. It is the quite different reason that we cannot but think of the self or states of consciousness as determined in relation to something permanent which is external to them" (p. 19). Kant is not arguing here that the perception of the time-determinations of physical objects presupposes the perception of something permanent. That is rather the argument of the First Analogy. He is arguing that our consciousness of the time-determinations of our own mental states in perception is only possible through the perception of permanence in a spatio-temporal order independent of the self and its states.

In my opinion the "something permanent in perception" which according to Kant is presupposed by the time-determinations of our states of perception must be identified with the existence of a system of physical objects in space and time. Mr. Smith will not admit as much in his interpretation. He identifies the "something permanent" simply with the time-order and not with a system of physical objects, mainly, it appears, because he believes himself that it is possible to think of time-determination in the form of succession without thinking of "anything else which is permanent" (p. 17). I cannot myself accept this as a correct analysis of temporal succession, and I do not think we can ascribe it to Kant. Also I do not myself notice with Mr. Smith "the absence of any reference at this stage to physical objects" (p. 22). Kant refers to "the existence of things" three times in the first paragraph of the Proof of his Thesis (B275-276). He refers to "outer objects" in the First Remark; and to the "reality of outer objects" in the Third Remark. What is more significant, Kant says in his Note to the Preface to the Second Edition (B L1) of the "something permanent": "This latter must therefore be an external thing distinct from all my representations." It appears to me incredible that Kant should have described the time-order as an "external thing". The whole point of reference to the permanent is that it is what enables the states of the self to be *determined in time*.

Since he thinks that Kant has only succeeded in showing explicitly in his Second Edition Refutation that the time-determinations of states of consciousness presuppose a permanent time-order which is external to the empirical self, Mr. Smith is forced to conclude that the Refutation needs to be completed by an inference from what Kant says elsewhere. In doing so he admits that Kant "in his own mind connects closely the notions of time and of what is perceived or perceivable in time" (p. 25). This is indeed undeniable. I should have thought it relevant to point out at this stage in his discussion that Kant makes clear in the Transcendental Deduction that consciousness of time is only possible through consciousness of phenomenal objects determined through a schematism of the categories. The Refutation of Idealism appears to me to be a conclusion from the entire argument of the Analytic rather than an independent thesis which requires to be developed in relation to it. But Mr. Smith thinks that we can arrive at a similar conclusion if we follow out three different lines of thought in Kant, concerned with the question of the time-relations between states of consciousness and objects of perception, the dependence of intuition on perception and the notion of permanence (p. 25 ff.). Most of what he says in following out these lines of thought deserves careful consideration. I shall not comment upon it in detail, except to point out that I think his discussion of the First Analogy suffers as a result of his wish to identify the notion of permanence in the Refutation of Idealism with the permanence of the time-order. "If the notion of the

permanence of the physical world is derived from reflection on time it cannot be connected with the notion of substance and its accidents. Hence we find Kant saying in B229, 230=A186 that many misconceptions arise if we divide existence into inherence (the existence of accidents; which is regarded as a particular kind of existence) and subsistence (the existence of substance)." But the misconceptions which Kant has in mind do not surely arise because we interpret the permanence of the physical world with the notion of substance and its accidents. If so, the category of substance and attribute would become irrelevant to the interpretation of our experience. These misconceptions are due to an erroneous interpretation of the category itself, and particularly of the meaning of the term "accident". We should not, Kant says, interpret "accident" as a distinct kind of existence from that of substance, but "as being simply the way in which the existence of a substance is positively determined" (B230-A187). I do not think it possible to admit that the permanence which Kant says in the First Analogy is necessary for the apprehension of time can be analysed simply in terms of successiveness and continuity, as I believe Mr. Smith is contending (pp. 33 ff.).

Both the inconsistencies in Kant's "empirical realism" and the incompleteness of his "transcendental idealism" appear very clearly from Mr. Smith's concluding reflections on the Two Refutations (pp. 42-47). In the interval between the two editions of the *Critique* Kant's interpretation of the status of spatial objects has been modified in a realist direction without any significant corresponding changes in his doctrine of self-consciousness. In the earlier account "the time and space to which spatial objects are conceived as belonging are the contents of ideas or *Vorstellungen* Time and Space are thus thought of as forms which condition the contents of ideas". "According to the other view it is necessary in considering states of consciousness or objects of 'inner sense' to lay stress on the point that these states are facts occurring in time. Looking at the matter in this way Kant decides that spatial objects are parallel to inner states in the sense that they also are facts occurring in the time-order, and that this time-order is in some sense external both to the inner states and the objects. . . . What Kant in his second position is anxious to insist on is that apart from the question of the existence of objects we must think of a time-order which is external to our states, and, if this is admitted, it is possible for us to think intelligibly of objects as persisting in independence of our inner states." Common to both editions, however, is the doctrine that "time and space are ideal or forms of consciousness"; and the obscurity and incompleteness of Kant's "transcendental idealism" arises partly from his failure to reconcile his theory of the ideality of space and time with his later account of the status of spatial objects. According to Mr. Smith his later position implies that "we must recognise and distinguish two forms or aspects of consciousness,

viz. (a) a consciousness which has a temporal character and appears as a series of inner states, and (b) consciousness which is the source of time as well as space, and accordingly cannot itself be an occurrence in time. It is in virtue of its being the content of consciousness (b) that consciousness (a) is called phenomenal" (p. 44). But Kant does not succeed in working out any coherent theory of the relations between the temporal and the non-temporal aspects of consciousness. In the *Critique of Pure Reason* there is no clear indication that Kant thought of the non-temporal consciousness which is the source of time, space and categories as anything other than an individual human consciousness. But as Mr. Smith argues more fully in his *Treatise on Knowledge* the intercommunication of finite minds seems to require us to interpret the non-temporal consciousness rather as a universal and "non-individual consciousness with which individual consciousnesses are in some way connected" (p. 47). I believe that Mr. Smith as well as Mr. H. W. B. Joseph are right in maintaining that if the implications of Kant's "transcendental idealism" are fully thought out they must lead us to interpret the non-temporal consciousness on which the intelligible structure of the phenomenal world is said to be dependent as a universal consciousness. But that will not justify Kant's assumption that "time and space are ideal or forms of consciousness"; and I think it can be argued that Kant's later Refutation of Idealism is fundamentally at variance with this assumption. The assumption in itself is ambiguous. It may mean that time and space exist necessarily as "contents" or objects of a non-temporal consciousness. In that case it is not obvious that the fact that space and time are known by a universal non-temporal consciousness can explain how they are known by a particular temporal consciousness. On the other hand as Mr. Smith himself suggests (p. 45) "the working of the non-temporal consciousness" may be regarded "as an activity of creation rather than an activity of consciousness". In other words the dependence of the phenomenal world on the universal consciousness may be interpreted as a relation of createdness rather than as a relation of being-known; and what Kant may mean is that unless the phenomenal world acquired an intelligible structure from a universal creative mind it is impossible to explain how particular finite minds can acquire any universal and necessary knowledge of it. But this is a form of Ontological Idealism rather than Transcendental Idealism, and it is more than doubtful whether Kant himself would have regarded it as a legitimate conclusion from any critical analysis of experience. If, on the other hand, the organisation of experience in accordance with the forms of space and time and the categories is due to the synthetic activities of a transcendental factor in the mind of a particular individual, that will not be sufficient to explain the co-ordination of individual experience with the sequence of presentations, or the possibility of communication between minds. That does not exhaust the possi-

bilities in the interpretation of transcendental idealism,¹ but it is, I believe, sufficient to indicate why the theory must either be abandoned or restated as a form of ontological idealism.

Some of the problems arising out of its interpretation are discussed by Mr. Smith in his chapters on the Deduction of the Categories. These are full of exact and penetrating thought and will repay the careful reading which they demand. As they do not seem to me to raise any fresh issue of fundamental importance for the understanding of his general interpretation I shall pass on to consider in conclusion his examination of the Antithesis of Phenomena and Noumena in Chapter V. It is not always clear to me whether Mr. Smith has in view Kant's earlier or his later theory of the status of spatial objects in relation to our inner states. But I take it that the substance of his criticism is that if spatio-temporal objects belong to the content of our ideas, then the doctrine of noumena is not sufficient to afford any "clue to the nature or system of the varying contents of our consciousness. . . . It is only in so far as we attribute to objects a determinate position in time or space that they seem to render intelligible the occurrence of our sensations. But to attribute to them this relation to time and space, is to deny that they are noumena." If, on the other hand, spatio-temporal objects are not internal to the individual mind, in accordance with Kant's later theory, then we can explain both the system of ideas in an individual mind and the possibility of communication between minds; but in this case the conception of noumena is superfluous. So far as the element of objectivity in experience is concerned, Mr. Smith's conclusion is that "the antithesis of phenomena and noumena and the contention that all spatial and temporal determinations are appearances are only an impediment to the proper development of his idealism" (p. 169). Our comment on this must be that it depends on how we interpret Kant's idealism. If we abandon the antithesis, we shall be forced to give up transcendental idealism with its implication of a two-fold source of the form and matter of our experience in favour either of some form of Berkeleyan idealism, or in favour of an ontological idealism. But Kant also makes use of the concept of noumena in his attempts to account for the idea of the unity and totality of our experience, so Mr. Smith concludes his examination by some references to what Kant has to say in his doctrine of the Antinomies and of the Ideas of Reason. Consideration of this leads Mr. Smith to the conclusion that the concept of noumenal reality is as incapable of explaining the elements of unity and totality in experience as it is of explaining objectivity. The only factor which can

¹ Another interesting alternative would be that the mind's knowledge of the physical world and of other minds is mediated by sense-experience together with a *a priori* concepts and principles obtained not from its own resources but through participation in a universal consciousness. This might be illustrated I suppose from the Augustinian theory of "illumination", or from Malebranche's theory of knowledge.

possibly explain these elements is that of consciousness itself, on which phenomena are necessarily dependent ; but we must interpret the consciousness on which the spatio-temporal and causal series are dependent as non-temporal and universal. Mr. Smith shows himself quite alive to some of the difficulties which are raised by this interpretation. Thus he says (p. 178) that "if time and space, being the contents of this consciousness, are also external to the individual consciousness, it becomes necessary to abandon the view, for which there are strong arguments, that our minds understand the natures of time and space not through experience but because they are connected with the principles of our own consciousness". He thinks this difficulty may be removed by the view that "the individual consciousness is dual in its nature and is not wholly individual". It might be possible to develop this suggestion on Augustinian lines ; but whether we are prepared to accept it or not, it certainly does not seem possible to accept his interpretation without abandoning the basis of "transcendental idealism". The theory of a universal consciousness attributes all the synthetic activities constitutive of objects to a mind independent of the individual consciousness ; but it is thereby deprived of any advantage that is to be gained by assuming that the organisation of experience in accordance with *a priori* forms and principles is an immanent process within the mind of the individual. My own belief is that this advantage is more specious than real ; but I am not convinced by Mr. Smith's examination that the antithesis of phenomena and noumena is not a necessary part of the critical system. I think that he might have usefully taken the opportunity to raise in this context some of the issues connected with Kant's theory of self-consciousness which he discusses very clearly in other portions of the present work and in his *Treatise on Knowledge*. If, as Kant maintains, our knowledge is confined to phenomena (*i.e.* spatio-temporal objects constituted by the mind out of a manifold in accordance with the forms of space and time and the categories), must not the reality of mind, whether universal or individual, fall necessarily within the sphere of the noumenal ?

But the antithesis of phenomena and noumena has a significance in Kant's philosophy which is more than epistemological ; and this Mr. Smith does not attempt to consider. It enables Kant at once to distinguish the spheres of the mechanical and of the moral, and to formulate his conviction that the former is dependent on the latter. It is only from the point of view of perception and scientific thought that mental activity and moral agency lie beyond the limits of experience. What has to be conceived only in negative terms for sense-perception and scientific thought is revealed directly in, or as a necessary implication of, moral experience. From the standpoint of the latter the mechanical and the material is something limited and incomplete that can only be integrated in a total experience on the assumption that reality is a kingdom of ends and that natural necessity is subordinated to a moral purpose. It is

not in sense-perception nor in scientific thought that we are aware of ourselves as unified and continuant selves, but rather in our experience of moral responsibility; and the key to the unity and totality of our experience is to be found in the implications of moral obligation, in the ideas of freedom and of God. Now the full significance of Kant's idealism is only to be found, according to Kant himself, in the Second Critique. We may be convinced that the ethical idealism of the Second Critique is ill-adjusted to the "transcendental idealism" of the Critique of Pure Reason. We may think that the dualism between a phenomenal and a noumenal self is as awkward for his ethics as it is for his theory of knowledge. But if the antithesis between phenomena and noumena enabled Kant to emphasise the incompleteness of perceptual experience, it cannot be dismissed as simply "an impediment to the proper development of his idealism". I think myself that any inquiry which seeks to establish an idealist philosophy by an analysis solely of our perceptual experience and scientific thinking cannot but find itself handicapped by lack of relevant evidence; and so I think we ought to be grateful to Kant for his rather clumsy efforts to set idealism back on to the right road. If we attempt to show that "the order in our experience is derived from the activity of our understanding" (p. 161) we shall find ourselves shut up within a subjectivist prison-house. But we know too little of the nature of a universal mind to be able to deduce the order in experience from its creative activity. What seems to demand an explanation on idealist lines is the *existence* of minds capable of discerning a universal order in nature and of adapting their purposes to a moral order which transcends their immediate interests. If we know anything directly of the nature of a universal mind, it is in moral and religious experience. The operations of our minds in the discursive activities of intellectual inquiry are too obviously conditioned by the circumstances of our finite existence to afford any adequate analogy for an understanding of the nature of a universal consciousness. Kant himself has warned us to beware of such an analogy by the contrast which he draws between an intuitive and a discursive understanding. If we employ the analogy hastily and uncritically we shall be presented with little better for our pains than a projection of the latest theory in physical cosmology. In the eighteenth century our picture of the divine understanding will mock at us with the lineaments of Newton; and in the twentieth century with those of Einstein. Kant has indicated to us what kind of value the hypothesis of a universal consciousness can have for our theory of knowledge. It can present us with the ideal of a complete and integrated experience which will render us dissatisfied with any knowledge of which we ourselves are capable under terrestrial conditions. But it will not enable us to deduce either the structure or the content of experience, or to understand in detail how we are capable of obtaining a universal knowledge.

A. C. A. RAINER.

Science versus Idealism : An Examination of "Pure Empiricism" and Modern Logic. By MAURICE CORNFORTH. London : Lawrence and Wishart, 1946. Pp. 267. 12s. 6d.

CORNFORTH thinks that "the advance of science provides the means for the solution of the problems of philosophy" (p. 263). He thinks Bacon, Hobbes and, in a measure, Locke recognised this. Berkeley, Hume, Kant, Mach, Russell, Wittgenstein and Carnap have been chiefly concerned with trying to deny it. And this effort "reflects" the wishes of the capitalist class that it should be denied. For the view that science provides the means for solving the problems of philosophy is a revolutionary view (even if Bacon held it). And, of course, to deny it is "reactionary".

But the view leads Cornforth to misconceive the problems and discussions he refers to. He thinks the philosophies he criticises deny "the independent existence of the objective material world". (Russell, Wittgenstein and Carnap differ from Berkeley only in that their denial of it is underhanded and tricky.) They are all forms of subjectivism. And he thinks that science provides the refutation of subjectivism, because science shows that the world exists independently. Cornforth never explains or discusses the phrase "exists independently". He often writes "exists independently of any consciousness", and he uses "exists outside consciousness" as equivalent. But the sense is still obscure. And in arguing that science gives proof of the independent existence of matter or material things he misunderstands what the idealists or subjectivists were saying. The question whether material things exist independently, as it arose in discussions like Berkeley's, is not a question of science. And it was not by ignoring the results of science that idealists were led to their position. Nor can the issue be settled by anything like a scientific investigation.

It might be said that what I perceive or what I think about exists independently, because it may exist when I do not perceive it and am not thinking of it.

But a statement such as "These stones will exist when they are not thought about" would be unusual, and it might not be clear just what was being said. It looks almost like a prediction; as though you were saying something about these stones in particular. And so it may seem like saying, for instance, "these stones will still be here after I am dead". But that is not what I want to say when I say they exist independently. For a soap bubble and a whiff of steam exist independently as much as the stones do. I am not really saying anything *about* the stones, anyway. It is not as though the stones were different in some respect from anything else.

When would you ask such a question as, "Will these things exist when they are not thought about?"? And what would you want to know? What sort of investigation might help you to

answer it? It is clearly not a question you would ask about any physical object. And you would not ask it about a mental image or an impression either. If you asked it at all, I suppose it would be because you wondered whether you were just having an image or whether you were seeing a real thing. And you would try to settle the question by asking other people, changing your position, seeing whether you could touch it and so on, and not by trying to see whether it really does exist when it is not thought about.

So it is a question whether these are real things—whether they are physical objects. But if you say that physical objects exist when no one is thinking of them, you are not saying what physical objects are like. You are not ascribing any “power” to them. It is not like saying that they are impervious to something or other. And it is not as though physical objects would be different in nature if that were not so—in the sense that it would make any difference to what you observe or what you can do with them.

It may be said that you have to assume their uninterrupted existence in order to account for their present condition, or in order to account for changes from what was observed earlier. And you *have* to assume this and you *have* to account for this because you are talking about physical objects. If it is an image, you do not have to account for its appearance in that way. And it is not really an assumption in the ordinary sense. It is not like assuming that the body must have been dead for so long in order to account for its present condition. The point is rather that any special assumption you do make in order to account for the present condition of these objects is an assumption of a particular form, or within a particular grammar. If you say that you have to account for their present condition in such and such ways, then this is “assuming” their continued existence. And I put “assuming” in inverted commas, because that is not really an assumption which you put forward or try to test at all. It would be better to say that it describes the kind of “accounting for things” that goes on in such cases.

“My house has existed while I have been asleep.” “How do you know?” “Because it has not been destroyed.” (The question “How do you know?” makes a difference, apparently.) What would make the bother, and upset our understanding, would be the interruption of certain constant sorts of behaviour. “Continued existence” is a feature of the descriptions we give of things, of the properties we assign to them; or rather, it has to do with what is meant by “assigning properties” in such cases. It is not itself a property, or anything we conclude from their behaviours. Assigning properties to things—describing things—is different from assigning properties to images or impressions. (For one thing, you do not investigate to see whether the image really has that property.) And the difference here is one of grammar—of what difference it makes to say one thing or another.

“Is the difference between real things and images only a difference

in the way you speak about them, then ? And could you change about and use the physical object grammar in what you say about images ? ”

That would be mistaking images for physical objects (which is not like mistaking a wax-work for a man).

Of course, the difference between images and physical objects is not a difference of words. But if you say it is a difference of nature—then I suppose we might ask, what *sort* of difference of nature. If we said there was a difference in the nature of iron and copper, we could say what the difference is by specifying the properties of the one that are not found in the other. But that is not what the difference between the image of a flower and a real flower is like. You may “carry out tests” to see whether it is a real flower or just an image. But the difference here, we might say, is in the “see whether”. For it is not an investigation to see whether it has certain properties or not.

You could not say, for instance, that one difference is that the image will not grow or will not attract bees. Or if you did, this would be confused and misleading. It would apply to paper flowers, for instance. And any difference of that sort is one that might hold between physical objects. (Even if you can put your finger through it, it might conceivably be a flower shape of coloured smoke or coloured light.) In fact, if you put the difference in that way it could *only* hold between physical objects.

What such “tests” do is not to bring out the differences between real things and images. And if you decide, “It’s only an image”, this is not like deciding “It’s only paper”. It is not in the same way a conclusion you draw about it from your investigations. Perhaps you can say they change your way of looking at it. You will not ask the same sort of questions about it, at any rate (“How did it get there?”, etc.). (If you called the investigation “testing an hypothesis”, would it be an hypothesis about what you saw or about yourself? Or neither?)

You can say that the difference between images and things is a difference in “mode of existence”, if that makes anything clearer. The trouble is that “mode of existence” is likely to be taken for something like “mode of operation”, and then the tendency is to treat images like a class of physical objects with a special mode of operation; which obscures the whole difference.

And there are special difficulties about such a phrase as “*independent existence*”, or about saying that impressions or images do not exist independently. This is partly because the reference is to a dependence on *consciousness*; and it is hard to see what sort of dependence that could be, or how it could be recognised. It is clearly not a causal dependence, anyway. If you say that images cannot exist without consciousness of them, this is not like saying that sounds cannot exist in a vacuum; the “cannot” is obviously different. That is why it makes no sense to try to show or discover

the "dependence".¹ It is the same when it is said that images exist only "in the mind" and physical objects are "outside".

What "subjectivists" do is to misunderstand what talking about physical objects is, and how this is different from talking about images or about impressions. But those who talk about the "independent existence" or "external existence" of physical objects are not clear about this difference either.

Cornforth, at any rate, shares most of the subjectivist confusions himself. And he is unable to show what is wrong with the theories he criticises even when he has partly understood them. The objects of sense, he says, are "contents of consciousness". And the ideas of science are also contents of consciousness. The contents of consciousness do not exist independently because they are "parts" or "aspects" or "functions" (he does not say finally which, and perhaps it does not matter) of brain processes, and have no existence apart from the brain (p. 90). But they are "conscious representations" of material things "outside" consciousness. Material things themselves are never contents of consciousness, but are what the contents of consciousness refer to. "The content of consciousness reflects reality, but reflects it in its own way, according to its own laws, and not with an exact correspondence" (p. 218). But science makes the correspondence more and more exact, and so gives us a more and more accurate "picture of reality". We might ask how we can know that the picture which science gives is a more accurate representation than what we had before; and Cornforth's answer is that the test is "practice"—the fact that we can use the ideas of science to produce things in accordance with them. That is the "test of the validity of knowledge" (p. 83). So material things are not mysterious or something we know not what, because science tells us so much about them, and because science enables us to produce such things ourselves.

He thinks the use of scientific knowledge to produce things is a refutation of subjectivism. But subjectivism is further refuted, he says, because it is "in hopeless contradiction with what we know to be the case as a result of scientific investigations" (p. 93), and especially with the results of neurology and with the theory of evolution.

But such refutations ignore the problems, and mistake what the subjectivists or "pure empiricists" were saying. Cornforth thinks that Berkeley and Kant and Mach all "asserted that the external objective material world, the system of material processes which in their interaction with our own organic bodies produce

¹ And for different reasons you cannot show a causal dependence on brain processes either. You cannot show that every time I have an image something happens in my brain, or that there is a change in my brain for every change in the image. But if you could, this would not show a difference between images and physical objects. It would suggest that images *were* physical objects.

sensations, is a meaningless supposition, without any grounds in experience or reason, mysterious, incomprehensible, absurd—in a word ‘metaphysical’”(p. 80). He supports Engels’s statement that “in Kant’s time our knowledge of natural objects was indeed so fragmentary that he might well suspect, behind the little we knew about each of them, a mysterious thing in itself. But one after another these ungraspable things have been grasped, analysed, and what is more, produced by the giant progress of science; and what we can produce, we certainly cannot consider unknowable”. And Cornforth says in his own words that “when we learn to produce it, the mysterious becomes comprehensible, the unknown becomes known, the ‘thing in itself’ becomes a ‘thing for us’”(p. 83). But what is mysterious and baffling in the question of what things are in themselves does not come from any scantiness of scientific knowledge; nor did that have anything to do with Kant’s argument. For Kant the idea of producing a thing in itself would have been absurd; and however much we may learn about phenomena by producing them, they are still phenomena. This view may be untenable. But to suggest that Kant’s difficulty is removed by the progress of science is just to ignore the difficulty.

Incidentally, for all Cornforth’s assertions about the independent existence of the material world, his own view leaves the material world as mysterious and unknowable as ever things in themselves were for Kant. For on his view the progress of science can present us only with further contents of consciousness or further “representations”, and never with what is represented. He does not show how we could ever arrive at anything to be contrasted with “contents of consciousness”, or what would be meant by that. And the reference to “practice” is no help. Whatever we may produce according to our ideas, we never see any result except new contents and new ideas. And if you say these “refer” to something “outside” or “beyond” them, this reference is as mysterious after “practice” as it was before. This is Berkeley’s criticism of the theory of material substance, and it holds against any theory which tries to put the difference between things and impressions in the way Cornforth does.

Cornforth argues further that science has shown that material things exist independently of consciousness, since it has shown that all thought and all consciousness depends on the brain (pp. 92, 93). It follows that the brain does not depend on consciousness, but exists independently. This is argued especially in refutation of Mach’s statement that “bodies do not produce sensations, but complexes of elements (complexes of sensations) make up bodies”. Since the existence of sensations depends on the brain, the existence of the brain cannot depend on sensations. Therefore the brain is not a complex of sensations. So the view that bodies are complexes of sensations is refuted by science.

But such an argument can be made plausible only by the vague-

ness and ambiguity of "depends on", together with a misunderstanding of Mach's¹ meaning when he said bodies were "complexes of sensations". Obviously Mach did not mean that a brain is a complex of sensations and not a complex of nerve fibres and cells. But suppose I look at a brain, and then say that what I see (and perhaps touch and smell) exists when I do not see it. The phenomenalist's puzzle is regarding the "what I see". He would argue that there are changes in what I see even when I am still looking at the brain—when I change my view point, shine a strong light on it, heat it and so on. The brain is supposed to be the same—the same body—throughout such changes. But what is it that is the same here, then? Mach said that all these various appearances, or "*sinnliche Elemente*", are so connected with one another that if you return to the same position, illumination, temperature, you have the same appearance again. It is this *connexion* among sensible elements which constitutes the body. "If we could measure all the sensible elements, we should say that the body consists in the satisfaction of certain *equations* which hold between the sensible elements."² Whatever may be said against this view, it does not conflict with any account of the structure of the brain in terms of nerve fibres. And it is not a statement that the brain depends upon the existence of sensation in the way in which it depends on the existence of nerve fibres. Nor does it prevent one from saying that I could not have sensations if I did not have a brain. "There is a brain within my skull" does not mean that anyone is *having* sensations of it, on Mach's view; and still less that *I* am.

All this has to do with Mach's analysis of the conception of material substance as it appears in what he calls "naïve understanding". Mach tries to show how this is carried over into the conceptions of material substance that have appeared in various branches of scientific investigation—mechanics, the theory of heat and so on. Cornforth does not do this, because he does not seem to have thought much about science, or to have learned what Mach's writings might have taught him about it. But even in the naïve conception there are difficulties which Mach was concerned with and which Cornforth never faces—difficulties in speaking of something "outside" or "beyond" or "behind" sensible appearances which "produces" them. And they are not met by pointing to the discoveries of science, in physiology or anywhere else.

I think Mach was mistaken in what he said about sensible appearances. When I talk about the colour I see or the texture I feel, I am not talking about my impressions. But it is not easy to show this. And Cornforth does not attempt to.

¹ Cornforth introduces Mach as a "neo-Kantian", I suppose because Lenin does so. He describes the neo-Kantian movement as "the movement which went backwards from Kant to pure empiricism".

² *Prinzipien der Wärmelehre*, Leipzig, 1900, p. 424.

Nor do you refute phenomenism if you say that science has shown that there were material bodies before there were living things. The phenomenist need not hold that if there were stones at that time, there must have been sense data at that time, any more than he need hold that if there are stones in that field now there must be sense data in that field now. And the former proposition is not really harder or more crucial for phenomenism than the latter. Certainly, if you are talking about conditions in which no observations *could* have been made, the phenomenist may wonder if it is clear what you are talking about. But if you say that what existed was something like what can be observed now, directly or indirectly (as when we measure high temperatures, for instance), the phenomenist would say you have still to give an account of it in terms of the sort of observations that could have been made. The question of how or whether human beings could have got into positions to make just those observations at those times is not really relevant to the phenomenist analysis, I think. If there are difficulties, they apply to the phenomenist interpretation of *any* statement about what is not immediately observed; or, it may be argued, even to any statement about what *is* immediately observed. The particular conclusions of science do not change the issues. And it is absurd to say they prove the independent existence of matter—as if that were really something like proving the prehistoric existence of matter or of material things.

The obscurity of Cornforth's references to "matter" appears also in what he says about "the world" or "Reality" or "being" (he generally uses these expressions interchangeably). He thinks that idealism presents a false picture of the world, and one that is in conflict with the "ever developing and ever more unified picture of the world" that is furnished by science. Science not only shows what the world is like, but it also provides an explanation of the world (p. 242, and elsewhere). And it shows us our place and our destiny in it. (It shows us our destiny by showing us how we may be masters of our destiny.) The task of philosophy is to explain the significance of science; and this consists in making it clear that science *does* provide a picture of the world. That is what idealism denies; and this is why idealism is a false and perverted philosophy. The significance of the particular discoveries of science lies in their contribution to this world picture, or their contribution to the understanding of the nature of the world or of reality. That is Cornforth's view.

Now it might be said that science shows us certain techniques of investigation, and it shows us the results of particular investigations and experiments. But it is not clear what would be meant by speaking of *the* significance of these investigations and these results. I suppose they might have a different significance according as you were interested in different sorts of application or in the development of theories. And it is not clear *what* significance you

would bring out if you said they showed us something about the world. If you say, for instance, that thermodynamics shows us something about the world—what have you added to the particular statements of thermodynamics?

The idea seems to be that the development of thermodynamics, or any new scientific development, is a "victory for science", and strengthens the view that science is the only way of arriving at truth. But what would it mean to say that science is a "way of arriving at truth"? There are methods of distinguishing between true and false views and between true and false predictions in any science. But to say that science altogether is a method of arriving at truth would mean little. As though "science" were a single and systematic inquiry, perhaps. I suppose the idea of a "unified world picture" is intended to support such a view. But one difficulty would be in knowing just what science as a whole is trying to find out; as though there could be scientific investigation with no specific problem. And it is no help here to say that it is "the nature of the world" or "the nature of reality" that science is trying to discover.

In philosophy, people have asked about "the nature of reality" or "the nature of existence", and not always in the same way. Sometimes it has been a question of "the general conditions of existence", and the inquiry into these has been part of an inquiry into "the conditions of the possibility of discourse". Perhaps the question "How is experience possible?" is something similar. But these are not empirical conditions of existence, in the sense that they might be discovered experimentally (like the conditions of the existence of vegetation). They are conditions of intelligibility, or of what can be thought or spoken about.

If it is said that the progress of science reveals the nature of reality, this might mean that reality is shown to "accord with" certain principles of scientific inquiry, such as determinism or the uniformity of nature. But these principles are not scientific laws, and they are not scientifically established. They do not describe anything that is itself an object of scientific investigation. And you cannot say that science shows that the world accords with them in the sense in which it shows that the processes of respiration accord with a certain theory of respiration. There is no scientific "theory of reality".

Cornforth speaks of a "view of the nature of the world which science gives us grounds for accepting", in contrast to metaphysical views of the world like those of logical atomism. He thinks that science supports the view that the world consists of "processes which interpenetrate and modify one another", and that "the most general characteristic of reality is change and movement" (p. 137). So that science refutes the view that the world consists of simple substances.

But here there is a confusion about the use of such expressions

as "permanence" and "change", or "states" and "processes". If you said "Science shows that everything changes" or "Science shows that nothing is permanent", we should not know what was meant, or what sort of scientific test could be applied to such a proposition as "Everything changes". Science measures changes of particular sorts; and science might test the statement that a particular factor remains constant during a particular reaction. But "This thing changes"—where would you begin in testing that? What sort of investigation would it be? Or if you say "Nothing is permanent"—what sort of consequences follow? (I suppose you would still build buildings and select your materials as before. Just as you would still distinguish between a curable injury and a permanent injury.)

The point is that there is no sense in talking about "bare" change or bare permanence, or in talking about "change"—in some absolute sense—as something that "goes on". You can distinguish between the changing features and the permanent features in some situation. And you can talk about the changes which sulphur may undergo (though it is still sulphur). But if you say the permanent features there were "really" changing, this is a misunderstanding, because you are now employing different criteria, and you seem to be suggesting that those features were not permanent after all—as though your former statement were false. You can distinguish between a crystalline state of sulphur and the process of melting sulphur. And if you say that the crystalline state is "really a complex of processes", you have not removed the distinction nor made it clearer. You are concerned with a different sort of description—in terms of electrons or whatever it may be.

You may say that science is *interested* in changes, and that scientific laws are concerned with measurements and functional relations of changes. But this would not show that science ignores permanent features or permanent states, let alone showing that there are none. If it did, it could not describe the change that was being measured. And although science measures changes, it does not measure "change".

If you say nothing is absolutely permanent, well nothing is absolutely changing either. (Which is a statement about the use of these expressions, not a statement of what has been discovered.)

"Everything changes" may be the expression of a particular *mood*. At best it tells us something of how you *look* at things. It is not a scientific generalisation.

"Science shows", it may be said, "that everything has an origin and everything perishes". This is rather like saying that science shows that everything has a cause. We may investigate to find out what the cause of an occurrence was, or what causes things of this sort. We do not investigate to see whether this occurrence had a cause or not, and we should not know what was meant by that. The causal generalisations of science state that such occurrences are

caused in those ways. "All occurrences are caused" is not a generalisation of that kind, and it is not based on the results of any scientific inquiry. Similarly, we should not know what was meant by investigating to see whether something had an origin or not; though we may investigate to find what its origin was. No doubt we have good reason to look for the origins of things, because when we do we so often find them. But this sort of "good reason" is not a scientific justification of the conclusion that everything *has* an origin. If you say—perhaps of atoms or of stellar nebulae—that "Each *must* have had an origin", that is more like a slogan; it is not an empirical statement.

Suppose one said that science can calculate the age of everything and predict how long it will last. I do not know whether scientists would say this. But it would be similar to saying that there are scientific laws for everything. That might be said to express "a scientific view of reality", in the sense that science could make nothing of any statement that there were some things for which no laws held. For that could have no connexion with or bearing on scientific statements, or on the scientist's distinction between what is so and what is not. And it might be said that "There is nothing which has not a discoverable origin and a discoverable end" belongs to such a "view of reality" also, since science could make nothing of the contradictory. But such a "scientific view of reality" is not a *theory*. And it is not a scientific view in the sense in which a theory of heat or light is. Nor does science give any reasons for it as it does for those theories. It is not a scientific description of anything, and it is not a conclusion that is drawn about anything. And to say here that "science shows us what reality is like" could only be misleading. This "scientific view of reality" is not part of what science shows.

In any case, granting that all things have origins and perish, this does not suggest anything like a universal process of change. And it does not suggest that changes are any more "fundamental" than permanence is. Engels said that "dialectical philosophy", with the support of "modern natural science", "reveals the transitory character of everything and in everything; nothing can endure before it except the uninterrupted (?) process of becoming and passing away".¹ But I do not know what this "process" is, and the fact that all things originate and perish does not show anything of the sort. Coming to be and passing away is not a process at all. A process, I suppose, is something that may be described, as a process of gestation might, or a process of decay, or a process of heating or cooling, or any chemical reaction. But what can you say of the process of becoming and passing away, which is supposed to be always going on? It is sometimes said that "succession" or "passage" is a fundamental feature of reality. I suppose the

¹ *Ludwig Feuerbach*, translated in *Karl Marx, Selected Works*, London, 1942, vol. i, p. 422.

analogy is with the succession of seasons, or with the succession of phases in the growth of an organism, or with the succession of generations in a family. Here we have the succession of events in a process, or members of a series; we may call the succession of the seasons a cyclic process, and the succession of generations forms the history of the family or the "life" of the family. But in all these cases the character of what appears is at least as important as its transitoriness; otherwise there would be no connexion between one event and what succeeds it, and we could not talk of a process at all. In fact, we always have in mind some process or other *before* we talk of succession. Succession itself is not a character of anything, and it means nothing to say that succession is a character of reality. Nor does the transitoriness of things show that reality is a process, or that it is any sort of change, or that it is *undergoing* any sort of change.

If you say "The succession of events forms the history of the world", you are still employing the confusion and not removing it. "The succession of events" means nothing by itself. It may look as though "the history of the world" adds something; though that is partly because of an ambiguity, and it would be less plausible to speak of "the history of reality". When we speak generally of "the history of England", for example, we do understand more or less vaguely what sort of events and changes are referred to, and we know certain general connexions between them. But we know nothing like this when we hear of "the history of reality". And the history of coming to be and passing away is nothing at all.

Cornforth seems to think that particular happenings and the particular changes we study are aspects of some universal change. This view may rest partly on the fact that in physics the results that are reached are explained by reference to more general laws; so that the special laws may appear to be instances or aspects of the more general laws. But although such explanation may show you how certain changes are interrelated as instances of a general type of change—that they exhibit common features and so are comparable—this does not show that they are phases of an all embracing change or process, or even that they are all interdependent. If the laws of mechanics can be applied to all motions, that does not say that all motions are aspects of the universal motion—as though that meant anything. Whatever might be meant by saying that the laws of mechanics described the general features of the world, no "universal movement" could possibly be described in terms of them. The proposition that all bodies move does not imply that there is one movement in which they all participate. Nor, incidentally, does it deny that bodies are ever at rest.

There is nothing, then, except confusion in the view that change or process is in any way "basic". It is nothing that science gives us any reason to believe. And it is no reason for saying that science shows us the nature of the world or the nature of reality.

You may say that science describes reality in the sense that it

shows you what really happens, as opposed to what you might have imagined, in some particular case. If someone thinks that he can maintain vigorous health for several years without proteins, physiology may show him (what he might find out the hard way) that his view is in conflict with reality. So physiology tells you something about reality. But it does not tell you what "being real" is; or tell you the nature of reality in that sense. And it is hard to see that it has told you something about the nature of the world.

But I think Cornforth would say it has. He seems to hold that the particular results in physiology or elsewhere reveal something "further" about the nature of reality, because they show you "what is involved" in any more general reference to "reality as a whole". If you could know what reality is like, you would know all that science discovers. And science shows you gradually and progressively what reality is like. Only, of course, the new discoveries do not simply add to what you knew. They change your conception of reality. Perhaps this goes with his idea of a developing reality, or of "changes in the whole character" of "nature" (p. 217). In any case it implies that scientists do not mean the same by "reality" or by "existence" now as they did in earlier periods.

Now if there should be a fundamental change in methods of investigation—if scientists no longer looked for causes, for instance—then perhaps you could say that the conception of reality had changed. So would the idea of the solution of problems. But this different conception of reality would not be something that was revealed by the discoveries of science. If the meaning of "reality" and of "existence" changed with each discovery, how could you say that the discovery tells you something further about it? If "discovery" and "correction of errors" and "testing" mean the same before the solution of a problem as after, then in one sense "reality" does too, and so does "existence". So this sort of understanding is in some sense prior to scientific discoveries, and is not gained from them. And it is a confusion to say that progress in science is progress in the knowledge of the nature of reality. You can say it is progress in knowledge of what really is the case. But that is not knowledge of the nature of reality or the nature of the world.

The idea of learning more *about* reality is confused in any case, just as the idea of a "representation of reality" or a "picture of the world" is, and as the idea of a more or less exact correspondence between this picture and reality also is. Cornforth thinks that science gives us such a picture, and that its correspondence with reality is becoming "ever more accurate". But if there were a different form of investigation—one not devoted to measurement of forces and to establishing functional dependence, for instance—what would be meant by saying that it did not correspond with or accord with reality? You might not be able to use it for predictions, as we use science. And "explanation" would be something different, too. But if you did not try to use it for predictions in this way

(because that was not what you were concerned about) with what reality would it be in discord? and what sort of discord would it be?

You might say it would "conflict" with "social practice", if social practice is devotion to the advancement of engineering and of industry. But can you say that social practice is the reality which science reveals or "reflects"? especially if you want to say that social practice also reflects reality?

Cornforth's account of all this is confusing because he thinks that "abstraction" is a kind of falsification and that you have to get rid of it if you want to see what is true. This confuses his account of the relation of science to social practice (i.e. to industry), and his account of the relation of both to "the world". He thinks that the "pure empiricists" gave a false account of knowledge and of science because they regarded them "in abstraction from all other human activities". As opposed to this Cornforth is able to say that because problems of industry or social practice called the attention of scientists to problems in science, therefore "basically" problems of science are problems of social practice (pp. 230, 231). ("Basically", like "in the last analysis", is one of the expressions Marxists use to blur issues.) And this devotion to viewing things concretely as "aspects" of the one process allows Cornforth to talk freely about what science "reflects". The aspect always reflects the whole; or if there are differences, they are again only different aspects of the whole. So science reflects what gave rise to it (it seems to reflect everything that is going on around it) and it also reflects all its possible applications. That all belongs to its "objective import", and is part of what science really shows us.

But if that is how science "shows us what the world is really like", then it does not arise from anything that science says. And we could not have learned from science that there was such a world, or that scientific activity was an "aspect" of it.

One might even think that if abstraction is falsification, then science never says anything that is true. In any case, it does not say any of the things about reality or about the world that Cornforth says it does. And Cornforth makes no headway in his criticisms of logical atomism by trying to show that science contradicts it. He only shows that he has misunderstood the sort of discussion that logical atomism was.

By "logical atomism" Cornforth means the views expressed in Russell's *Our Knowledge of the External World* and in Wittgenstein's *Tractatus*. And he says "the whole standpoint of logical atomism . . . is untenable, because it is impossible to find any atomic fact in the world, or to formulate any elementary proposition satisfying the postulates of the logical theory" (p. 140). But these two points are not the same. In the view of the *Tractatus* we can be sure there are atomic facts even if we are not sure of the forms of elementary propositions. And part of Cornforth's trouble is that he does not see the importance of this difference.

Cornforth assumes that an investigation must either be scientific or be pseudo-science. But discussions such as logical atomism was are neither. An inquiry into the nature of logic, or the nature of propositions, or of truth, or of knowledge, is an attempt to get clear about the usage of certain words, or to distinguish certain concepts. It is not an attempt to discover new facts which special methods now make accessible. The reasons for seeking a clarification of logic may be various. They may come from puzzles about mathematics, and about the relations between mathematics and logic. In any case, people have felt a deep unclarity about what logical conclusions are, what contradictions are, and what propositions are. And of course the attempt to get clear—to see what we are talking about here—has itself led to new puzzles and new difficulties. The search for clarification may lead people to look for definitions, as it has elsewhere in philosophy; as Socrates looked for a definition of knowledge, and as Russell tried to give a definition of a physical object in terms of perspectives and sense data. So perhaps logical atomism tried to give something like a definition of logic through analysis of logical forms and of symbols.

In much of philosophy such definitions seem to be misleading, or not to serve for what is wanted, even though valuable work may have been done in trying to formulate them. (For instance, even if the attempts to define "knowledge" only bring out that no definition really describes the whole usage, that there are no regular or fixed boundaries here, that is extremely important.) This seems to be so regarding "proposition" and "truth", and even regarding "logical principles". And the line that logical atomism took in trying to clarify these notions may have been largely wrong; though we should hardly see this now if the attempt had not been made. It may be that the reference to atomic facts and elementary propositions does not explain logic or make it clearer in the way it was meant to do. But to show this you have to do philosophy. You have to show *what* was wrong—what sort of mistake it was. And you do not do this by saying, as Cornforth does, that "observation and experiment have never yet revealed any atomic fact".

A "theory of logic" would not have the same function, as a theory in physics. And if, in the course of it, it is said, for instance, that the world consists of atomic facts, this is clearly not a theory about the structure of things in the sense in which atomic theories in physics are. It is rather a theory of truth. And you might say it bears on physics only in questions of the relation of physics to logic. The reference to "the world" in logical theory is part of the attempt to "explain" logic in this way; to bring out the distinctions between logical laws and other propositions, to bring out what is meant by "logical impossibility", what would be meant by calling logical principles "laws of thought" and so on. It may be questioned whether the reference to "the world" is really helpful here, and Wittgenstein no longer makes it. But where it appears

in the earlier work of Wittgenstein and of Russell there is clearly nothing like a theory about what may be discovered through methods superior to those of science.

It is partly because he misunderstands this reference to "the world" that Cornforth makes such a point of what he calls Wittgenstein's "solipsism". Wittgenstein has never held to solipsism, either in the *Tractatus* or at any other time. Cornforth may have been misled to some extent by a bad translation. In *Tractatus* 5. 62, Wittgenstein said, "Was der Solipsismus nämlich meint, ist ganz richtig, nur lässt es sich nicht sagen, sondern es zeigt sich". This is translated, "In fact, what solipsism means is quite correct, only it cannot be said, but it shows itself". And Cornforth frequently quotes only "What solipsism means is quite correct" (without the italics), as though it were tantamount to saying that solipsism is quite correct. But the translation should rather be, "What solipsism wants to say is quite correct". For Wittgenstein was not saying that what solipsism says is correct in any way; in fact, he was denying that. But even with the bad translation Cornforth might have seen the point if he had looked more closely at the context in which Wittgenstein made the statement and at his reasons for making it. Wittgenstein was talking about "the limits of our language"—about the limits of intelligibility, about the distinction between what makes sense and what does not. These limits are given in logic; and in the same way, the "limits of the world", or limits of what can be, are given in logic. Only these limits cannot be described—just for the reason that they are limits of language or limits of intelligibility. They can only be seen or understood, in the way logic can. The discussion is connected with Wittgenstein's whole account of logical symbolism, with his view that logical constants do not "represent" anything, and with what he says about internal relations and about how we know the structure of facts or the structure of the world. What logic shows about the world—the nature of reality in this sense, what it is to be a fact—is not something that can be said; any more than you can describe what a logical connexion is. Only if you say it has to be seen—then the limit is the limit of what can be seen, or rather the limit of seeing. The limit of understanding; and this is not something that can be found out by experience. Nor, of course, can it be compared with anything. "That the world is my world", said Wittgenstein, "shows itself in the fact that the limits of that language (the language which only I understand) mean the limits of my world." Of course Wittgenstein is not saying that all language, or everything about language, is something which only I understand, especially if you take "I" to mean L. Wittgenstein or any other particular man. And what he says here does not run counter to what he says in other passages about colloquial language, for instance. What is important is logical symbolism. And his point is that the "I" does not really stand for anything.

"The philosophical I", he said, "is not the man, not the human body, or the human mind of which psychology treats, but the metaphysical subject, the limit—not a part of the world" (5. 641). And it is in this sense of the *limit* that he also says, "I am my world". (Cornforth misses the importance of the reference to "the limit" here, and also in his quotation of Wittgenstein's statement that "The world of the happy is another than the world of the unhappy". Here again the point is not that the unhappy man knows or observes anything different from what happy people do.)

This is not a form of relativism or of "subjectivism"; and it is not solipsism. In discussing the analogy with the visual field—and with "the limits of seeing" in that sense—Wittgenstein says that you cannot infer from anything in the visual field that it is seen by an eye; and this is connected with the fact that nothing in our experience is *a priori*, and that everything we see could also be otherwise. And in the same way, you cannot infer from anything you experience that it is experienced by a particular person, or even that it is experienced by a human being or any sort of organism or any sort of mind. That is why he says that if you try to work out solipsism it will coincide with pure realism.

It is nowhere implied in the *Tractatus* that in order to say *what* a proposition means I have to say what happens to me. And although Wittgenstein spoke of "my world" in the connexions mentioned, he did not speak in any similar way of "my experience". Cornforth tries to show that Wittgenstein's views were solipsistic by bringing in "the principle of verification"—the view that the meaning of a proposition is the method of its verification. Verification in this sense is not mentioned in the *Tractatus*. There are suggestions of it, which Cornforth points out, in such statements as, "To understand a proposition means to know what is the case if it is true". But in the first place, this does not bear on what Wittgenstein does say in reference to solipsism. And in the second place, there is nothing in such statements, or in what is said about atomic facts, to suggest that in order to say what is the case if it is true I must refer to *my sensations*, or even to "my experience". Yet Cornforth says that "by means of the principle of verification, Wittgenstein has rigidly insisted that every 'analysis' shall be in terms of the constituents of sense experience. . . . Every proposition, whether it is a simple statement of fact or a proposition of science, means only something about experience" (p. 158); and, "It is clear already that when Wittgenstein said: 'In order to discover whether the picture is true or false, we must compare it with reality', what he means would be better expressed: 'In order to discover whether the picture is true or false, I must compare it with my experience'" (p. 150). I do not know whether Cornforth has read what Wittgenstein did say in the *Tractatus* about propositions of science, or what he would make, e.g., of the statement there that "Through the whole apparatus of logic the physical laws

still speak of the objects of the world" (6. 3431). In any case, nothing is said there, and I do not think anything was ever said by Wittgenstein, to bear out the conclusions which Cornforth tries to draw from "the principle of verification". He argues—as Wittgenstein would have agreed—that in science verification is often carried out by several people working together, and that it cannot be "the work of one person in a solipsistic world of his own"; and Wittgenstein never said nor implied that it could.

Cornforth misrepresents Wittgenstein's views more commonly, perhaps, than he does those of the other philosophers he discusses. But for the most part the misrepresentations are obvious enough to need no comment. The main point is that he does not see what Wittgenstein was saying. And this may be partly because he thinks that all philosophy is devoted to affirming "the independent existence of the objective material world of which science treats", or else to denying it.

Cornforth's most important issue with Carnap is regarding the nature of logical principles, and in particular regarding what Carnap said about "the principle of tolerance" and the question of "the true logic". Cornforth insists against him that the principles of logic "conform to the world of being, and to the logic of that world". "Propositions represent things. . . . Propositions communicate information. And the principles of logic do accordingly possess an objective validity, or, if you like 'constitute a faithful rendering of the true logic', in the sense that they show, given certain information, what further is involved or follows from it. The validity of logical principles results from this, that the information expressed in the conclusion is involved in or contained in the information expressed in the premisses." They therefore, "represent something more than just syntactical 'rules of formation and transformation'" (pp. 199, 200).

Here there is some play with the ambiguity of "involved in". But the point seems to be that because in arguments—the arguments in which we "employ" logic—we are talking about things and events, therefore logical principles or logical relations must correspond to some relations among things and events.

But an argument is not a description of anything, even though descriptions may occur in it. And although calculations may show you how things will be, and your predictions may be confirmed, this does not corroborate your calculation.

You can say, I think, that our logic "has something to do with" the sorts of things we talk about, just as the character of arithmetic has, and as our language altogether has. If things were entirely different and behaved entirely differently—if one could never speak of identity in the way we do, for instance, or make the sorts of distinctions among things that we do—people might never have come to reason as we do. But that is not to say that our principles of reasoning describe the sorts of things we talk about; though they

may play a part in determining what we should call a description and what not. But if the description were "incorrect" from this point of view, it would not be because it had said anything about reality which did not correspond to it.

If you say that logical principles are rules of syntax, that seems in a way superficial, especially if you do not discuss the sort of syntax that is in question. And to talk about *choosing* our language or *choosing* our logic is silly, if only because *choosing* belongs to the "language"—the way of living and speaking—which *has* the logic we know. Which is not to say that a society might not live and speak differently—or do something analogous to speaking, if you wish to say that without our logic you would not call it speaking. (This is one of the points which Wittgenstein has made, I think.) And for similar reasons I think it is misleading to talk about a "principle of tolerance" in logic. It is true that no one deductive system is *the* true representation of our actual use of logical principles; and that this never will be so. But the question of "the truth of logic" is not always a question of the truth of a deductive system, and "the truth of logical principles" does not always mean truth within a deductive system. And the reference to "alternative logics"—to "two valued" and "many valued logics" and so on—confuses the issues here. The alternative logics may be important in showing that you can calculate according to various rules and you would still call it calculation. Also perhaps that what you would call contradiction in one system you would not call contradiction in another. They may have made clearer what "being logical" or "being a calculus" consists in, and shown that certain things are not essential. But the alternative logics are all supposed, I think, to be deductive systems, and in that sense they are all supposed to be logical. They do not question the distinction between logical and illogical procedure. And as far as I can see they do not touch the question of "whether there could be an illogical world", or the question of the truth of logic in the sense of the "truth" of standards distinguishing between logical and illogical. I do not think, either, that you can settle many important philosophical questions about the nature of logical necessity or the nature of proof by reference to them.

These questions are too difficult for treatment here. But if Carnap's discussion of them was unsatisfactory, it was not because he said that logical principles are rules of syntax instead of saying that they tell you something about the material world.

These are samples of what I think are central among the problems Cornforth treats.

His account of the "social function" of philosophy is not worked out, and it is infected with the confusions I have mentioned. The task of philosophy, he says, is to show that science solves the problems of philosophy. In doing this philosophy shows that science can change the world. And so it shows mankind how science can make it master of its destiny.

Cornforth thinks that if you admit that science provides knowledge of the world, you must admit that science can change the world; though really it does not follow. And if science could change the world, it would not mean that "mankind" was master of its destiny. His position is too vaguely stated for full criticism. The following are points among many which Cornforth might have considered.

(a) It is not true that when you discover something in science you thereby gain power to change it. The changes you make in things may depend on scientific discoveries. But unless you discovered something you *cannot* change, you could not predict, and there could be no engineering.¹

(b) Your power to change the world may be limited by the fact that someone else, who also has knowledge, is trying to change it in a different way.

(c) There is nothing about human societies which makes it reasonable to speak of the application of engineering to them. Even the most important "problems of production" are not problems of engineering.

(d) Though scientists may "lay the foundations" for the work of those who will come after them, they do not control it.

(e) There are various sorts of "social practice", and there is no reason why "solving problems of social practice" should lead to the liberation of humanity from poverty and oppression. Nor would the application of science to social practice make this likely. Science may be used in preserving privilege and intensifying oppression.

R. RHEES.

¹ Cf. J. A. Passmore, "Prediction and Scientific Law", *The Australasian Journal of Psychology and Philosophy*, September, 1946.

VI.—NEW BOOKS.

A History of American Philosophy. By H. W. SCHNEIDER. New York: Columbia University Press (London, G. Cumberlege), 1946. Pp. xiv + 646. \$4.50, 25s. 6d.

If I understand correctly the general scheme of Professor Schneider's history, it is as follows: ¹ There are three major periods in the history of American Philosophy. In the first period, philosophy did not exist as a specialised discipline. Any conscientious search for truth, whether in religion or political thought or science, was recognised as a philosophical enterprise. "Philosophy flourished without being taught." It was a matter of "spirit" rather than of "particular doctrine". In the third period, beginning with the last quarter of the nineteenth century and still current, philosophy has been professionalised, academic, and largely divorced from vital contact with culture. The second period consists in the transition from the first to the third. The principal features of this second period, which fills the major portion of the mid-nineteenth century, are (a) the rise of academic orthodoxy, (b) the appearance of an independent discipline known as "mental philosophy", and (c) the breaking up of "mental philosophy" into "mental science" or "psychology" on the one hand, and, on the other, into something called "philosophy proper".

On the background of this general scheme Professor Schneider tells an elaborate and extremely complex story. Indeed, the detail is so copious that the story defies adequate summation. A few comments on the principal sub-divisions of the book must suffice. The chapters are grouped under eight sections. Of these, I through III constitute the exposition of what Professor Schneider considers the first main period defined above. These three sections consider successively Puritanism, Religious Thought during the Enlightenment (with a very slight nod to science), and Political Thought during the Enlightenment. Sections IV and VI provide the analysis of the second or transition period. The former considers the rise of academic orthodoxy, the latter considers the impact of Evolutionary theory in American thought and traces the origins of the final split between psychology and "philosophy proper". I find the status of Section V somewhat anomalous. It is Professor Schneider's treatment of Transcendentalism. In the first place, I find it inadequate as an account of the philosophical import of Transcendentalism; in the second place, I fail to grasp the significance of the section in the general scheme of the book. Sections VII and VIII constitute the analysis of the "systems" of philosophy which America produced after philosophy became professionalised. Section VII considers Idealism, emphasising Royce. Section VIII considers "Radical Empiricism", emphasising James and Dewey.

There seem to me to be three marked "virtues" of Professor Schneider's book. (1) There is no attempt (aside from the relatively innocuous one already cited), such as one finds in Woodbridge Riley's standard work, to impose neat generalisations upon the history of American thought.

¹ Professor Schneider's own statement of this scheme is given its clearest expression on pp. 225, 226 and p. 441.

Professor Schneider succeeds in communicating to the reader a sense of the real complexity of the currents which are to be found in this history. His attempt to do full justice to this complexity has led him to exhume considerable matter which he himself recognises as "unprofitable" (cf. p. ix). But one can scarce refrain from expressing thanks to the author for labouring through a mass of detail one would never want to impose on oneself.

(2) The intent to treat philosophical ideas in relation to the part that they have played in the broader context of American culture as a whole is surely admirable. There is an element of truth in the condemnation clearly implied by Professor Schneider's over-all scheme. Philosophy *has*—not only in America, but throughout the world—tended during the past century to lose its contact with broad issues of cultural significance. I fail to find any adequate remedial suggestions in Professor Schneider's book, but he no doubt could claim that the historian's task is to highlight problems rather than to solve them.

(3) Far and away the best section of the book (this is no doubt in part a personal reaction) is Section VI, where, intent on tracing the transition of philosophy to an academic and professionalised status, the author analyses the impact of evolutionism in this country. This is a very thorough treatment, containing much material not easily available elsewhere. If one wonders at the juxtaposition of Edward Arlington Robinson with Santayana, Henry Adams and William Graham Sumner, it can only be said that it is an author's privilege to make what judgments the evidence seems to him to substantiate.

The foregoing seem to me to be the principle "virtues" of the book. The following seem to be the principle "vices". They concern primarily the success with which the author carries out his basic scheme.

(1) In his treatment of the earlier period of American thought, it is virtually impossible to discover any criterion for the use of the word "philosophical". Admittedly, the author believes that this is, in America, a period prior to the elaboration of "full grown systems". One may, of course, wonder about this, especially in view of the work of Edwards and Emerson. But that is not the point I wish to make here. My point is rather that, admitting an absence of system, Professor Schneider seems to have no criteria whatsoever for the labelling of a point as "philosophical". A great deal of the material which he introduces (e.g. Alexander Hamilton's views on public finance) is of such a character that it is difficult to see what it is doing in a history of philosophy. One is tempted to conclude that the author has become so engrossed in the enterprise of relating philosophical ideas to American culture in general, that he fails to retain the limiting adjective "philosophical". In the first three sections of the book one finds very little material which is of any present "philosophical" value.

This is a disastrous "vice". For it will abet, it seems to me, the widespread tendency to suppose that America really *was* devoid of philosophical ideas before the rise of naturalism and pragmatism in the late nineteenth century. I am one of those who believe that this widespread tendency is misguided—that there is far more significant contribution to the history of philosophical ideas by early Americans than is generally recognised. This leads me to my second criticism.

(2) Professor Schneider seems to me to have failed to grasp the really important features of early American philosophy. I cannot possibly justify this remark in full. I shall simply cite what seem to me the two most obvious cases.

First, the treatment of Edwards is almost entirely preoccupied with Edwards' middle or theological stage. Yet this is precisely the stage in which Edwards is least interesting to the philosopher. It is his early *Notes on the Mind*, and his tendency to return to them during the latter part of his life that show up Edwards' true stature as a philosopher. So far as I am aware, there has never been an adequate attempt by a philosopher to compare the detail of Edwards' Idealism with that of Bishop Berkeley. One might have hoped for something of this sort from the present work. Instead one gets much erudite detail about lesser minds.

Second, and even more striking, the treatment of Emerson literally ignores philosophy. The direct treatment is made in a chapter only six and one-half pages long, the content of which is summarised in the index as "Emerson: power as an American institution". The only points about Emerson that are made in the entire book are that he was an individualist, anti-institutional, the inventor of a secular pulpit, a believer in the poetic use of intellect, a believer in America's destiny. Surely the reader must infer either one of two things. Either the author does not understand the philosophical basis of Emerson's thinking, and the relation of Transcendentalism in general to intellectual movements on the European continent; or, understanding all this, he is consciously ignoring philosophical issues in favour of historical matters with little or no philosophical significance.

(3) Unfortunately, I must also criticise the treatment offered of the final or "system building" stage. In this portion of the book (Sections VII and VIII) there are two serious shortcomings. First, already noted by other reviewers, the author's failure to comprehend the significance of C. S. Peirce. Secondly, the tendency to overweight the importance of the pragmatic or instrumentalist position at the expense of other movements (which after all are quite distinct) such as Positivism and Realism.

It is a very difficult task to write a history of philosophical ideas such that one steers a safe course between popularisation on the one hand and technical proficiency on the other. In this task the present work does not succeed. The vast amount of detail, erudite and admittedly academic, is sufficient to destroy it as a popular book. Yet if it is a scholarly book whose chief aim is technical, it would seem reasonable to require of it, as a history of philosophy, that it satisfy technical philosophers. And this it will not do, for it is technical in its treatment rather than in the character of the problems it handles.

Let me hasten to repeat, however, that within the pages of this book there are sections of considerable value. Much of the material is not only made available for the first time, but is not likely to be made available again. While as a history of American Philosophy it cannot be called basic or definitive, it is reasonably certain that the book will long serve a very valuable purpose for the historian of ideas.

JAMES WARD SMITH.

Morals and the New Theology. By H. D. LEWIS. London: Victor Gollancz Ltd., 1947. Pp. 160. 7s. 6d.

"THERE appears to me to be no more urgent matter in the field of theological study than to relate the main features of contemporary theology to what we feel bound to believe about the moral life, to bridge what appears

at the moment an impassable gulf. Until this is achieved we cannot enter properly on the heritage of religious understanding and awareness which this generation seems otherwise destined to receive as the supreme compensation for the stress and confusions through which it has passed." ¹ These sentences, quoted from the first page after the preface, well express the purpose of the book. By the new theology the author means roughly Barthianism and allied lines of thought; and there can be no denying that writers in this movement have sharpened the antithesis between theology and philosophy to the extent of destroying the connexion between them, thus depriving themselves of any hope of a rational justification of the doctrines they put forward, though they commonly do not seem to mind this loss but rather to glory in it. It is not however their theology in general but their particular views as to sin and guilt which Mr. Lewis criticises. Contemporary philosophers have usually been content to ignore theology, but even a positivist will admit that philosophy has the important negative function of removing confusions, and there is no field in which this function can be exercised more profitably than in the field of theology. Mr. Lewis himself is no positivist—he believes in theology and wishes to save it from its perversions—but he certainly fulfils very effectively this critical task of disclosing confusions at least in what the theologians said. Perhaps they did not mean what they said as literally as the criticisms of Mr. Lewis seem to imply (I do not profess to judge what they did mean) but certainly, if they meant something better, they expressed it in a confused way which makes such a work of criticism necessary to prevent people from being misled by them.

The theologians in question are criticised by Mr. Lewis on three main grounds. (1) They claim that the only basis for ethics is to be found in theology. But it is on the contrary plain that, even if the unbeliever were right in his view of religion, it would still be our duty to do good in this world. (2) While emphasising very strongly the concept of sin they in their doctrine of universal sinfulness make us responsible for the sins of the race and for a mysterious sinfulness which is not due to our voluntary action but is prior to any particular sins and graver even than these are. This Lewis regards not only as confused thinking but as very dangerous because it undermines the notion of individual responsibility on which morality depends. Of course one can be responsible for other people, but that only means that we have a duty to look after the welfare and behaviour of those in our charge; and an individual may share the guilt of his group, but only because of some specific acts or failures to act of his own. These considerations are applied interestingly to the question of Germany, and the German Lutheran Church is accused of being tainted with the evil of state-worship, though a large section of it resisted when and only when the Nazi doctrine was applied against their church itself and not merely against other victims. (3) While recognising fully the acute dangers confronting our civilisation Lewis protests against the extreme pessimism inculcated by so many religious thinkers. This is connected on the theological side with the dogma that the human will can produce nothing good without conscious belief in the doctrines of Christianity, and on the empirical side with the extraordinary destructiveness of modern war, from which it is a perhaps natural, but, as Lewis points out, a quite unjustified, inference that modern man is sinful in a special degree. The

¹ p. 11.

new theology confuses genuine errors of judgment with voluntary sins, and the sort of compromise which is really sinful with the compromise which sincerely makes the best of a bad job, and thus greatly exaggerates the extent of sinful action in the world, besides making a large part of sin involuntary and thus violating the principle that "ought" presupposes "can". We have lately heard a great deal of wishful thinking, but I for one am glad that a protest is here made against the equally dangerous indulgence in the opposite extreme. In an excellent, if very short, closing chapter the author supplements his criticisms by displaying the elements of strength in the outlook of the new theology and bringing out the need for a synthesis.

Philosophically my points of disagreement with the author relate almost entirely to the concept of freedom. I myself think that determinism is less irreconcilable with something not too drastically unlike the common-sense conception of responsibility and guilt than he does, but apart from this very controversial point he is surely wrong in holding that the acceptance of determinism would entail the Socratic view that virtue was primarily a matter of knowledge.¹ Even on the determinist view our action would depend not only on our knowledge but on our desires and if, as is obviously the case, these are liable to be very much out of proportion to our intellectual views as to what is best, since we, *e.g.*, desire our own good more than the greater good of a stranger or our own present good more than a greater good in the remote future, this, even if determinism be accepted, provides an explanation of much wrongdoing other than that given by Socrates. I also think that the author carries too far his separation between conscious and unconscious wrong-doing and his refusal ever to give any moral blame to the latter. Surely if a man does wrong to others because he persistently thinks only of his own interests and ignores theirs, he is morally to blame for this attitude of will even if he never expressly asked himself the question whether it was wrong or not. The most frequent kind of wrong-doing committed probably falls under this heading of "inconsiderateness", and we certainly think we can blame people for inconsiderateness. Nor do I see why free will in the indeterminist sense, if it occurs, should be limited to cases of moral conflict. If freedom consists in indeterminism and it is "confined to the cases where there is a conflict between character and duty", it would follow incidentally that a morally perfect being could never be free at all, which casts doubt on the importance of that kind of freedom for morality. I might mention here a misprint or verbal mistake in this passage: "nothing" on l. 12 p. 141 should surely read "something".

The book is not, I think, intended primarily for professional philosophers but for all interested in recent theological developments. Coming from one who has obviously much understanding of religion it supplies a very valuable antidote to a great deal that has been lately written, and it might be well if it were made compulsory reading for all theological students. Not that I suggest it should be confined to these. By no means: it is lucid and non-technical enough to be in general understood by the intelligent layman and should be of great value to him as well as to those primarily and specifically interested in philosophy, who, as the author points out, are somewhat apt to neglect the concept of sin.

A. C. EWING.

¹ p. 142.

The Politics of Aristotle. Translated with an introduction, notes, and appendixes, by ERNEST BARKER. Oxford, at the Clarendon Press, 1946. Pp. lxxvi, 412. 15s.

PROFESSOR BARKER has written this book for such as 'students belonging to the faculties of modern history, or of modern philosophy, or of economics and politics, who have not been trained in the classics, and must therefore study the *Politics* in some sort of modern version'. The Greek alphabet is not used in the book.

An introduction of some 60 pages gives a sketch of Aristotle's life and scientific personality, and discussions of the unity and date of the *Politics*, of the notion of the *polis*, of several terms in Aristotle's political vocabulary, and of other matters. It is good reading for several reasons, one of which is the wide range of facts and ideas to which the author makes connexions. For example: 'Like the Marquis of Halifax at a later date, [Aristotle] set down what might be called "the Trimmer's opinion of the laws and government"'. There are several most illuminating quotations from other Greek literature, for two of which unfortunately the reference is not given, for one of them not even the author.

Is the *Politics* a unified work? Professor Barker clearly contradicts himself on this matter. On the one hand: 'Any translator of the *Politics*, who has lived with the book on his desk day on day, and month after month, is bound to become familiar with his author; and such familiarity breeds in the mind a deep sense of the unity of the author, which is perhaps the strongest argument for the unity of the composition and structure of his book.' On the other hand: 'It is not a homogeneous or unitary treatise. . . . It is a collection or conflation of different essays rather than a single treatise—a collection assembled and arranged by Aristotle (or by some subsequent editor) under a single title, but not welded into a single work.'

Were the different parts of the *Politics* written at different times? Professor Barker tells us that the making of this translation has changed his mind, and he now holds that the *Politics* was 'all composed in the period between 335 and 322, during the period of Aristotle's teaching in the Lyceum'. It may incorporate earlier writing; but, if so, 'this material was embedded in the *Politics*, fused with the *Politics*, and cannot now be distinguished as a prior and separate stratum'.

The evidence which Professor Barker brings in this book for dating all of the *Politics* to the period of the Lyceum is not impressive. It falls into two parts, one being the claim that the work is a unitary composition, so that all parts of it must be as late as some parts of it are admitted to be; and the other being a few references intended to show that the books considered early by Jaeger are really late. The claim that the work is unitary is contrary to the experience of other readers of the *Politics*; it is not borne out by Professor Barker's frequent notes on the incoherencies in the work; and it is contradicted by himself in another part of his introduction. As to the references to prove that Books II, VII, and VIII belong to the period of the Lyceum, the suggested references in VII and VIII to the contemporary Athenian statesman Lycurgus are all very weak. The points listed can all be referred equally well to Plato's *Laws*, as Professor Barker notes. This Lycurgus is not named or designated in the *Politics*. Professor Barker also has two references to show that VII and VIII refer to the 'catalogue' material which was accumulated in the Lyceum after

335. One of these is to Book VIII, c. viii, which, however, does not exist. (P. xxxiii; same error repeated, p. 387.) The other is to VIII, iv, which says that 'in the Olympic victors one would find only two or three who had won both as boys and as men'. It does not say 'in the list of Olympic victors', as Professor Barker translates; nevertheless, it is his best argument. The references offered to prove Book II late turn out to be merely suggestions that two passages *may* refer to a late date as easily as to an early one. Since his work is intended for beginners, Professor Barker perhaps has stronger arguments which he has not printed here; but it is a pity that he has printed these.

In the translation which follows the introduction, Aristotle's lean gnomic terseness is lost. Jowett's 'man is by nature a political animal' becomes 'man is by nature an animal intended to live in a polis'. 'Εἰ δέ becomes 'another consideration must also be pressed' in 1263b27. 'Εἰ δὲ οὖν . . . οὕτω καὶ becomes 'we may make the assumption that . . . finally we may also assume that . . . on the basis of these assumptions we may conclude that' in 1253b23-30. 'Ἐκείνοι becomes 'derive their essential character' in 1253a23. Καὶ becomes 'we may now proceed to add that' in 1253a18. 'We have to remember that' seems to correspond to nothing in 1270a10.

Such expansions are regular. In addition to them, the text is further expanded by frequent explanations inserted in square brackets. For example, γνόμενῃ μὲν οὖν τοῦ ζῆν ἐνεκεν, οὕσα δὲ τοῦ εἰς ζῆν becomes: 'or rather [to speak more exactly] we may say that while it *grows* for the sake of mere life [and is so far, and at that stage, still short of full self-sufficiency], it *exists* [when once it is fully grown] for the sake of a good life [and is therefore fully self-sufficient]'. These square brackets appear on every page.

I regret to say that this mass of expansions and explanations seems to me a great pity. I love Aristotle's taut pungency and hate to see it lost. I do not see that any counter attraction for Greekless students is secured. Jowett's style is modern enough for anybody. It is more modern than the flavour of T. H. Green that often makes itself felt in Professor Barker's version. I think Professor Barker should have acted more on his own statement that 'it is the terse Aristotelian formula which has always influenced thought'.

Besides the expansions and explanations in the text, Professor Barker has notes in two places, the longer ones at the ends of the chapters, the shorter ones in the 'cellar' at the bottom of the page. Three quarters of the expansions and explanations should be deleted; the other quarter should be added to the notes. Each chapter is preceded by a clear and useful summary.

After the translation of the *Politics* Professor Barker gives 37 pages of translation, with comments, of political passages in other works of Aristotle. Finally there is an index, to the translation mainly; it contains no modern names. There is no list of books.

RICHARD ROBINSON.

John Keats' Fancy: The Effect on Keats of the Psychology of his Day.

By J. R. CALDWELL. Ithaca, N.Y., Cornell University Press; London, G. Cumberlege, O.U.P., 1945. Pp. ix + 206. \$2.00; 12s.

PROFESSOR CALDWELL'S study of Keats is generally similar to Professor Beatty's well-known one of Wordsworth. 'It is the purpose of this book', he writes, 'to show that the ideas derived from the psychology of his day [i.e., associationism] were of radical importance in Keats' creative life, to observe how these ideas affected his work-ways, and thus better to understand his poetry' (pp. 7-8).

Let it be said at once that the author argues his thesis with commendable good sense, free from crude Procrustean accommodations. Of his general conclusions he says, they 'will properly be regarded as offering reasonable interpretation rather than as asserting palpable fact' (p. 193).

He begins with an examination of the poems of the 1817 volume, supplemented by a few later ones, and material from the poet's letters, designed to elucidate Keats' method of composition, 'the temper and action of mind he found proper for poetry'. 'It is', he finds, 'the method sanctioned largely by the psychology, and thence derived aesthetic, of the Association of Ideas' (p. 49). An historical account of this theory and its application to aesthetics is sketched in the first section of chapter ii; and the evidence is then presented for Keats' acquaintance with it in expositions technical and popular, and from oral discussions.

The core of that evidence is as follows. 'Keats owned Locke's *Of the Conduct of Understanding*. He also owned, and . . . read, Hazlitt's *Essay on the Principles of Human Action . . . To Which Are Added Some Remarks on the Systems of Hartley and Helvetius*. He read Addison and Akenside and Wordsworth, who, each in his way, reflect elements of the tradition. 'More important, however', Professor Caldwell points out, 'than his reading or not reading any single author, is the fact that Keats lived in an atmosphere of new thought about the mind and about beauty, an associationistic atmosphere blended of the thoughts of many men'. Among these, 'Leigh Hunt, his early idol and mentor, repeatedly used the phraseology and the concepts of association' (p. 71). 'It seems unlikely on the basis of the foregoing', concludes Professor Caldwell, 'that Keats' own meditations on these matters, however free, could have been perpetually maiden' (p. 73).

The final section of the chapter is a comparison of Keats' reaction to the theory with Wordsworth's. Opinions relevant to the author's views here are to be found in chapter iv—The Simple Imaginative Mind—which is an examination of Keats' own views about the working of his imagination, as expressed in letters.

In 'habitually placing the very highest faith in the imagination' Keats was at one with Wordsworth where both radically diverged from Hartley. But, for the rest, Professor Caldwell sees noteworthy differences in their responses. For Wordsworth imagination was 'the thinking principle'. Keats was 'content to keep it close to sensation'. 'He believed that it carried him to truth by ways we shall presently try to follow, but he did not disavow its sensory origins, nor its irrational processes. He never converted its function' (p. 81).

The author's contention here is closely connected with, and in large measure probably determined by, the view expressed in the penultimate chapter that there is an important associationistic element of meaning in

Keats' celebrated equation of beauty with truth. It is in line, too, with his discounting, as no more than a mere temporary 'speculation', Keats' idea of the imagination as exercising some kind of transcendental function, prefigurative of 'reality to come', expressed in the most famous of his letters to Bailey (v. pp. 134 and 155). On these points the critics will divide.

Chapter iii, 'Endymion: Technique of the Dream', probably the literary *pièce de résistance* of the book, is an exploration of that poem viewed as taking its 'essential form and quality . . . from the shape and texture of the dream', the product of 'Keats' own conviction of the mind's fertility in slumber', a conviction sanctioned and confirmed by the psychology of associationism. Details cannot be given here, but mention can hardly be omitted of the interesting interpretation suggested on general associationistic principles of the poem's famous opening thought:

'A thing of beauty is a joy for ever:
Its loveliness increases'.

'Why increases?' 'The answer lies in the essential principles of associationism. For in this system, pleasurable associations ever prevail over painful ones, and beauty becomes more beautiful in retrospect, through constantly increasing associations' (p. 99).

Finally, in chapter v, Professor Caldwell approaches the 'Tarpeian rock' itself of Keatsian criticism. Though he thinks that 'perhaps no structure of ideas which we may detect in Keats to make reasonable and definite the equation of truth and beauty will be adequate to reflect the total meaning in his mind', he is, nevertheless, convinced that associationism can help us 'to locate the reasonable substratum' (p. 165).

The clue is found in the associationist aesthetics of Hazlitt, in whose writings the words truth and beauty are 'constantly coupled'. His 'most considerate statement', however, 'of the virtual identity of truth and beauty' is the tenth of his formal propositions on aesthetics in the Essay on the Elgin Marbles: 'That truth is to a certain degree beauty and grandeur, since all things are connected and all things modify one another in nature'. 'The real meaning' of this proposition is then collected from Hazlitt's general criticism. It is expanded thus: 'Truth is beauty, beauty truth in the literal quantitative sense, since beauty is that which brings into play "the associations and feelings of a whole life", "an infinity of knowledge bearing upon a single object"' (p. 180). 'Beauty, then, in the infinity of associations it evokes, is truth' (p. 183). 'Among the meanings of "Beauty is truth . . .", concludes Professor Caldwell, 'this meaning, affirmed and rationalised by Hazlitt's association aesthetics, is active' (p. 186).

The customary moderation of the author's conclusion almost disarms criticism. Suffice it to say that the reviewer's opinion is that we come nearest to the essential meaning of that 'baffling equation' by way of a careful examination of the evidence provided by Keats' *prose* versions and their contexts, rather than by any associationist itinerary of Hazlitt. The matter cannot be argued here, but it is suggested that the clue lies in substituting the word 'reality' for 'truth'. 'What the imagination seizes as Beauty must be Truth' (= Reality).

PETER STUBBS.

Épicure et ses Dieux. Par A.-J. FESTUGIÈRE. Paris : Presses Universitaires de France, 1946. Pp. xvi + 136. 75 frs.

THIS book belongs to a series on myths and religions. The author finds Epicurus a sincerely religious man, though his religion was more complex and nuanced than the simple attitude of the Stoics. To show us Epicurus in this light, the author begins by sketching the religious situation at the start of the Hellenistic period, and the profound differences made in it by the conquests of Alexander and the death of the city-state. Next he outlines the life of Epicurus. His third chapter deals with Epicurean friendship : Epicurus went beyond the friendship of the Academy in including women, which he could do since he rejected the political life, and above all in holding friendship not a means to the knowledge of reality but an end in itself. In making this point Father Festugière has occasion to develop the Epicurean doctrine of true happiness and of the place of scholarship therein. Happiness does not lie in study. Negatively, it lies in undisturbedness ; but, positively, this undisturbedness must consist largely in the practice of friendship. Epicurus was a saviour of souls, and particularly of the young. "In a world whose civic and family frameworks were tending to disappear, Epicurus succeeded in founding a new family. Let us not doubt that that was the secret of his long prestige."

The fourth chapter develops the best known aspect of Epicurus' theology, his destruction of religious terror by the doctrine that the gods do not intervene in the events of this world. But the author urges that Epicurus was nevertheless sincerely pious, and took part in all customary observances, and even recommended prayer ("ὁ σοφὸς προσεύχεται τοῖς θεοῖς : supplevi exempli gratia", p. 98). He does not, however, discuss Jensen's view that Epicurus believed in actual intercourse between the gods and good men ; and upon the whole his conception of the Epicurean prayer seems to be that it consisted not in supplication but in worship and aesthetic contemplation. "Though the Sage might have been astonished to hear it, it is nevertheless very true that Epicurus' religion is related to Plato's. Both men place the goal of the religious act in the contemplation of beauty."

Besides the frightened superstition of the common man, there existed in Epicurus' world the astral religion founded by Plato. The doctrine that the gods do not interfere was directed against ordinary religion. Had Epicurus anything to say about the religion of Book X of Plato's *Laws* and its successors ? Father Festugière devotes his fifth and last chapter to this question, and believes that he finds Epicurus' answer in the letter to Herodotus 76-82, and the letter to Pythocles 85-88. The answer is that Plato's religion involves an eternity of predetermined metamorphoses, which would produce fear and an immense despair, but which we can confidently reject because its scientific basis is false. I am not sure which points of scientific method it is that Plato's star-science is supposed to violate ; but I think it is that, when phenomena are very far removed from us, we must suspend judgment between the various alternative explanations of them that are possible. Father Festugière is unconvincing here ; it does not appear that Epicurus paid any special attention to Plato's theology and astronomy.

Finally, the author compares the ideal of undisturbedness as it occurs in Epicurus with the versions of it by Pyrrho and by the Stoics.

Father Festugière treats his subject very sympathetically. His ex-

position is lucid in style, and rich in knowledge of the history and literature and inscriptions of the period, and of recent literature about Epicurus. He has a fine power to illustrate and deepen common knowledge. He gives copious translations from the fragments of Epicurus. He quotes and critically discusses the text of some of them in notes, giving an impression of prevailingly sound and sober judgment. To my two disagreements with him, indicated above, I could add only one more: I doubt whether he could give convincing references for his Neo-Platonic sketch of Plato (pp. 7-8). I regret the absence of an index and the meagreness of the bibliography. A delightful and illuminating book.

RICHARD ROBINSON.

Arthur Schopenhauer: Philosopher of Pessimism. By Frederick Copleston, S.J. London: Burns Oates & Washbourne, 1945. Pp. xii + 216. 12s. 6d.

THIS book was not received by the Editor till early in 1947.

The author begins by giving a brief outline of the development of philosophy preceding Schopenhauer and a short biography, but the book is mainly an exposition of Schopenhauer's philosophy. Thus the author devotes the next seven chapters to the metaphysic of idea, pessimism, the escape through art and through self-denial, some detail to do with the arts, and ethics. The final chapter indicates parallels to Schopenhauer's thought in later thinkers, though the author is careful to point out that actual influence is not to be assumed from such parallels; a few pages are devoted to the pessimist's views in relation to Christianity.

Except on one point the book is a good presentation of Schopenhauer's views and its brevity is a pleasant contrast to the padding that takes up nine-tenths of that philosopher's books. Professor Copleston, as one would expect from reading his previous book on Nietzsche, gives a sympathetic treatment of a man with whom he cannot agree. Such criticism as is given is to the point, given in moderation, and not made up of inappropriate subtlety—Schopenhauer was not a great enough philosopher or a careful enough thinker to make it worth bestowing a full battery of logical criticism upon him. The only inadequate feature of the exposition—and it is a serious omission in Schopenhauer's case—is that the metaphysics of the love of the sexes is not treated.

If academic readers should find this book less interesting than the author's previous one on Nietzsche, this would be due to the straightforward subject-matter, not the treatment. There is no controversy here: one has only to say shortly what Schopenhauer said lengthily, with a minimum of clarification and criticism; but with Nietzsche there is much more to be done than this. With a wide class of readers, however, there is a need for books of this type—elementary without being popular.

J. O. WISDOM.

Received also:—

- J. O. Wisdom, *Causation and the Foundations of Science* (Actualités scientifiques et industrielles, 1001), Paris, Hermann et Cie, 1946, pp. 54.
 R. Carnap, *Meaning and Necessity: A Study in Semantics and Modal Logic*, Chicago, Chicago University Press (London, Cambridge University Press), 1947, pp. viii + 210, 27s. 6d.

Épicure et ses Dieux. Par A.-J. FESTUGIÈRE. Paris : Presses Universitaires de France, 1946. Pp. xvi + 136. 75 frs.

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THIS book was not received by the Editor till early in 1947.

The author begins by giving a brief outline of the development of philosophy preceding Schopenhauer and a short biography, but the book is mainly an exposition of Schopenhauer's philosophy. Thus the author devotes the next seven chapters to the metaphysic of idea, pessimism, the escape through art and through self-denial, some detail to do with the arts, and ethics. The final chapter indicates parallels to Schopenhauer's thought in later thinkers, though the author is careful to point out that actual influence is not to be assumed from such parallels; a few pages are devoted to the pessimist's views in relation to Christianity.

Except on one point the book is a good presentation of Schopenhauer's views and its brevity is a pleasant contrast to the padding that takes up nine-tenths of that philosopher's books. Professor Copleston, as one would expect from reading his previous book on Nietzsche, gives a sympathetic treatment of a man with whom he cannot agree. Such criticism as is given is to the point, given in moderation, and not made up of inappropriate subtlety—Schopenhauer was not a great enough philosopher or a careful enough thinker to make it worth bestowing a full battery of logical criticism upon him. The only inadequate feature of the exposition—and it is a serious omission in Schopenhauer's case—is that the metaphysics of the love of the sexes is not treated.

If academic readers should find this book less interesting than the author's previous one on Nietzsche, this would be due to the straightforward subject-matter, not the treatment. There is no controversy here: one has only to say shortly what Schopenhauer said lengthily, with a minimum of clarification and criticism; but with Nietzsche there is much more to be done than this. With a wide class of readers, however, there is a need for books of this type—elementary without being popular.

J. O. WISDOM.

Received also:—

- J. O. Wisdom, *Causation and the Foundations of Science* (Actualités scientifiques et industrielles, 1001), Paris, Hermann et Cie, 1946, pp. 54.
 R. Carnap, *Meaning and Necessity: A Study in Semantics and Modal Logic*, Chicago, Chicago University Press (London, Cambridge University Press), 1947, pp. viii + 210, 27s. 6d.

- D. Williams, *The Ground of Induction*, Cambridge, Mass., Harvard University Press (London, G. Cumberlege), 1947, pp. ix + 213, \$ 3.00, 16s.
- M. Black, *Critical Thinking: An Introduction to Logic and Scientific Method*, New York, Prentice-Hall Inc., 1946, pp. xv + 402, \$5.00.
- A. Fischer, *Die philosophischen Grundlagen der wissenschaftlichen Erkenntnis*, Vienna, Springer-Verlag, 1947, pp. vi + 240, Swiss Fr. 18.
- I. Hrušovský, *Teória Vedy (Wissenschaftstheorie)*, Bratislava, Sno, 1941, pp. 119.
- J. O. Wisdom, *The Metamorphosis of Philosophy*, Cairo, Al-Maaref Press, 1947, pp. vii + 224.
- P.-M. Schuhl, *Machinisme et Philosophie*, Paris, Presses universitaires de France, 1947, pp. xv + 129, 100 fr.
- J. Feibleman, *The Revival of Realism: Critical Studies in Contemporary Philosophy*, Chapel Hill, University of N. Carolina Press (London, G. Cumberlege), 1946, pp. 333, \$4.00, 22s.
- T. Van Schelven, *An Introduction to Definitive Philosophy and Basic Psychology*, Amsterdam, Kosmos Publishing Co., 1947, pp. 112.
- Lecomte du Noüy, *Human Destiny*, London, Longmans, Green & Co., 1947, pp. xix + 289, 17s. 6d.
- L. Bryson, *Science and Freedom*, New York, Columbia University Press (London, G. Cumberlege), 1947, pp. xi + 191, \$2.75, 15s.
- J. Leclercq, *Les grandes lignes de la philosophie morale*, Louvain, Institut supérieur de philosophie (Paris, J. Vrin), 1947, pp. 456.
- R. A. Tranoff, *Ethics*, New York, Harper & Bros., 1947, pp. xiv + 385, \$3.50.
- D. D. Raphael, *The Moral Sense*, London, G. Cumberlege, 1947, pp. 201, 12s. 6d.
- W. F. R. Hardie, *Naturalistic Ethics* (British Academy, Annual Philosophical Lecture), London, G. Cumberlege, 1947, pp. 31, 4s.
- E. F. Carritt, *Ethical and Political Thinking*, Oxford, Clarendon Press, 1947, pp. xx + 196, 10s.
- E. Cassirer, *The Myth of the State*, London, G. Cumberlege, 1947, pp. xii + 303, 18s.
- A. C. Ewing, *The Individual, The State, and World Government*, New York, Macmillan Co., 1947, pp. viii + 322, 20s.
- S. Radhakrishnan, *Religion and Society*, London, G. Allen & Unwin Ltd., 1947, pp. 242, 10s. 6d.
- L. Quarto di Palc, *L'Altro Mondo: Il Divino nella Vita e nell' Universo*, Padua, Dr. Antonio Milani, 1947, pp. 774.
- M. Horkheimer, *Eclipse of Reason*, New York, Oxford University Press (London, G. Cumberlege), 1947, pp. vii + 187, \$2.75, 16s.
- A. Little S.J., *The Nature of Art: or The Shield of Pallas*, London, Longmans, Green & Co., 1946, pp. x + 264, 8s. 6d.
- G. G. Scholem, *Major Trends in Jewish Mysticism*, New York, Schocken Books, 1946, pp. xiv + 454, \$5.50.
- I. Hrušovský, *Francis Bacon a rozsvet anglickej filozofie*, Trnava, Urbánek, 1945, pp. 139.
- A. H. Ryan, *Legionaries of Christ (Ignatius of Antioch, Polycarp of Smyrna, Justin the Martyr, Irenaeus of Gaul)*, Dublin, Clonmore & Reynolds Ltd., 1947, pp. 55, 2s.
- A. Kojève, *Introduction à la lecture de Hegel*, Paris, Gallimard, 1947, pp. 597, 640 fr.

- L. Husson, *L'Intellectualisme de Bergson : Genèse et Développement de la notion Bergsonienne d'Intuition*, Paris, Presses Universitaires de France, 1947, pp. xi + 240, 200 fr.
- C. Rudino, *Il Dramma di Margherita : Interpretazione dal Goethe*, Milan, Casa Editrice Ceschina, 1947, pp. 95, L. 180.
- L'Année Psychologique*, 43^{me} and 44^{me} Années (1942-43), Paris, Presses Universitaires de France, 1947, pp. xxiv + 856, 900 fr.
- R. B. Cattell, *Description and Measurement of Personality*, London, G. G. Harrap & Co. Ltd., 1946, pp. xx + 602, 15s.
- H. Beaumont, *The Psychology of Personnel*, London, Longmans, Green & Co., 1945, pp. xiii + 306, 10s. 6d.
- H. Beaumont, *Psychology applied to Personnel*, London, Longmans, Green & Co., 1946, pp. viii + 167, 10s. 6d.
- F. S. Livie-Noble, *The School Psychologist*, London, Duckworth, 1947, pp. 256, 8s. 6d.
- W. S. Sadler, *Mental Mischiefs and Emotional Conflicts : Psychiatry and Psychology in Plain English*, London, H. Kimpton, 1947, pp. 396, 30s.
- J. T. Davies, *Sublimation*, London, G. Allen & Unwin, Ltd., 1947, pp. 148, 6s.
- W. Hollitscher, *Sigmund Freud : An Introduction (A Presentation of his Theory and a Discussion of the Relationship between Psychoanalysis and Sociology)* (International Library of Sociology and Social Reconstruction), London, Kegan Paul, Trench, Trubner & Co. Ltd., 1947, pp. viii + 119, 8s. 6d.
- J. F. Montague, *Nervous Stomach Trouble*, New York, Simon & Schuster (Kingswood, Surrey, The World's Work Ltd.), 1947, pp. xii + 356, 12s. 6d.
- Proceedings of the British Academy*, Vol. XXIX, 1943, London, G. Cumberlege, 1947, pp. x + 485, 30s.
- F. E. J. Ockenden, *Illuminants and Illumination for Microscopical Work* (Monographs of Quekett Microscopical Club), London, Williams and Norgate, Ltd., 1947, pp. 26, 2s. 6d.
- Ophthalmology, being Section XII of Excerpta Medica*, Vol. I, No. 1, May, 1947, Amsterdam, N.V. Excerpta Medica, pp. 48.
- Radiology, being Section XIV of Excerpta Medica*, Vol. I, No. 1, June, 1947, Amsterdam, N.V. Excerpta Medica, pp. 56.
- Sri Aurobindo Circle, Third Number*, Bombay, Sri-Aurobindo Circle, 1947, pp. 192, Rs. 5.
- Zeitschrift für Philosophische Forschung*, Bd. I, Heft 2-3, ed. by G. Schischkoff, Reutlingen, Gryphius-Verlag, 1947, pp. 173-444.
- Philosophia Slovaca*, I, ed. by I. Hrušovský, Bratislava, Academia Scientiarum et Artium Slovaca, 1946, pp. 268.
- Laval Théologique et Philosophique*, Vol. II, No. 1, 1946, Revue Semestrielle, Quebec, Éditions de l'Université Laval, pp. 225, 2 Canadian Dollars, Annual Subs. 3 Canadian Dollars.
- Association of Parents of Backward Children : News Letter*, Vol. I, No. 4, August 1947, 8 Westfield Avenue, Harpenden, Herts., pp. 7, 6d. monthly.

VII.—PHILOSOPHICAL PERIODICALS.

REVUE PHILOSOPHIQUE DE LOUVAIN. Tome 44 (3^e Série, No. 3, Suppl.) Août 1946. RÉPERTOIRE BIBLIOGRAPHIQUE. [The attention of specialists is called to this comprehensive list of books and articles published since the beginning of 1945. For some reason, no articles in MIND are mentioned.]

REVUE PHILOSOPHIQUE DE LOUVAIN. Tome 44 (3^e Série, No. 4) Novembre, 1946. ARTICLES. **Fernand van Steenberghe.** *Problèmes épistémologiques fondamentaux.* [The author is replying to published and unpublished criticisms of his *Epistémologie*. In his view, epistemology is an indispensable prelude to systematic philosophy. It has three stages, the descriptive, the critical and the logical, but the last of these, which consists in a description and criticism of the processes of discursive reason is, in fact, inseparable from the other two. Descriptive epistemology considers the relative value of these judgments in the light of an absolute norm discovered among the described data. The point of departure of neo-scholastic realism is, therefore, the first affirmation of descriptive epistemology 'aliquid est', not the phenomenal object of the neo-Kantians, which lacks both ontological and representational value. Has an epistemologist the right to include scientific data about the brain and sense-organs in his description of sense-perception? The author thinks he has, because they are indubitable interpretations of indubitable facts. He recognises a distinction between objectivity and independence in sense-qualities. A sheet of paper might be rectangular, although it was never sensed, but unless it was sensed, it could not be white. He distinguishes different degrees of subjectivity in sense, imagination and abstract thought. In the last case, the degree of subjectivity is so great that the subject is able to evaluate its own activity.] **Anneliese Maler.** *Nouvelles Questions de Siger de Brabant sur la Physique d'Aristote.* [The author has discovered a manuscript containing 'reportationes' of twenty-two questions concerning the *Physics*, which can be safely ascribed to Siger de Brabant. Eight pages of text are given and a quotation from a Bologna manuscript of the Fourteenth Century, which might refer to this series of questions, though the author's arguments to this effect are by no means convincing.] **Henri Lacroix.** *Le Théorème de la Connaissance de M. Jacques Paliard.* [P. is a pupil of Blondel who has evolved a subsistent-centre theory of consciousness.]

ÉTUDES CRITIQUES. **Jean Paulus.** *La perception de la causalité selon M. Michotte van der Berck.* [Michotte found that the perception of mechanical causality could be evoked without using objects having mass or visual depth. He therefore evolved techniques for presenting causal patterns by the use of the cinematograph and the turning of discs behind a screen pierced with an aperture. The fundamental schemata proved to be those of the stop-cannon (*lancement*) and the push-cannon (*entraînement*). These facts fit in well with Gestalt Psychology, but they are fatal to theories that derive the notion of cause from the proprioceptive experience of activity. They suggest reasons for the popularity of Cartesian mechanics, and might inspire further experiments that would explain the popularity of Aristotle's theories also.] **Gerard Verbeke.** *Deux ouvrages récents sur Aristote.* [The author reviews the second edition of Augustin Mansion's

Introduction à la Physique aristotélicienne in the light of Jaeger's hypothesis concerning the dates of Aristotle's works, and Suzanne Mansion's *Le jugement d'existence chez Aristote.*] CHRONIQUES.

REVUE PHILOSOPHIQUE DE LOUVAIN. Tome 45 (3^e Série, No. 5), Février 1947. *Articles.* **Bernard van Steenberghe.** *Le Problème de l'existence de Dieu.* [(1) Is there a problem of the existence of God? S. believes that there is, because even the greatest sceptic cannot be quite certain that God does not exist, and even the most convinced believer would admit that the logical basis of his belief must be sought in something other than his practical assurance. (2) In what terms ought we to pose the question? Bearing in mind the difference between the individual, the social and the scientific conceptions of God, he suggests that the fundamental question of Theism is to what extent we can know with scientific certainty that the Universe has a providential Creator. (3) What methods can be used to solve this problem? Empirical arguments may be based either upon history (e.g., the facts of the Christian theophany) or psychology (e.g., the facts of religious experience among ordinary persons or mystics). Rational arguments may be based on the facts of positive science, or upon philosophical reflexion. Three kinds of philosophical argument are distinguished—cosmological arguments, like the argument from the necessity of a First Mover; psychological arguments, like those of Anselm and Descartes; and metaphysical arguments, like the Fourth Way of St. Thomas, which is based upon a consideration of the nature of finite being. Another instalment is promised.] **Roger Verneaux.** *Doute et Croyance.* [The essence of Renouvier's philosophy, which exercised a considerable influence upon William James, is contained in the following four propositions. (1) Metaphysics begins with the search for a First Truth. (2) Doubt is the correct method of discovering that truth. (3) The application of the method results in scepticism. (4) The task of criticism is to define the limits of this Pyrrhonism. Theoretically, it must exclude the contents of immediate experience. Practically, it must exclude postulates like freedom and the uniformity of nature, which are indispensable articles of faith. V. thinks that the third proposition is without adequate foundation. He bases his criticisms on the distinctions between being true and being evident, and between being evident and being indubitable.] **Gérard de Montpellier.** *Qu'est-ce que le comportement?* [Strict behaviourists would like to define conduct in purely physical and chemical terms, distinguishing it from physiological processes by its global character. Such a definition is impossible, because many psychological functions, like speech, do not involve the whole organism, while most physiological functions, like digestion, are much affected by the state of the rest of the organism. The criterion of what is conduct, and what is not, is the end to which it leads, and so it cannot be understood, unless it is thought of as having an inner, experiential aspect. This interpretation of conduct is not originally, or ordinarily, reached by an analogical inference, but is derived from immediate emotional responses and observation of a likeness of pattern between one's own emotional states and the behaviour of others in similar circumstances.] **Robert Feys.** *Note Complémentaire sur les méthodes de déduction naturelle.* [The article contains three parts. The first part is a sketch of Jaskowski's system of natural deduction, which is based on a rule for distinguishing assertions from suppositions, two rules about implication, and a rule that is equivalent to the *reductio ad absurdum*. The second part contains a simpler and more

elegant formulation of Gentzen's second method, which was described in the second part of Feys' previous article. The third part concerns Ketonen's re-formulation of Gentzen's second method, so far as it deals with the classical logic of propositions. All Ketonen's schemes can be inverted, and all assertions in it can be decomposed into assertions that do not contain any of the four fundamental logical constants—*and*, *or*, *if*, *not*. Once again Feys reveals his mastery of the subject, and of the art of lucid exposition.] *ÉTUDES CRITIQUES*. [Includes a long and valuable account of the William James Centenary Celebrations by André Maes.] *CHRONIQUES*. [In the obituary, one notes the names of G. S. Brett, M. R. Cohen, K. Koffka, and E. Mally.]

REVUE PHILOSOPHIQUE DE LOUVAIN. Tome 45 (3^e Série, No. 5), Février 1947. *Répertoire Bibliographique: Année 1947*. [This careful and comprehensive bibliography now lists articles published in *MIND* and *Philosophy*. From its contents, it would seem that there has been no advance in the popularity of Logistic in recent years.]

VIII.—NOTES.

JOINT SESSIONS.

24th July, 1947.

To the Editor of MIND.

DEAR SIR,

Another annual Joint Session has come and gone and no doubt it will soon be the duty of a Committee to make plans for the next. May I offer certain reflexions for their consideration—reflexions made from the point of view of a member of the audience, rather than of a speaker.

(1) Many philosophers who attended the meetings at Cambridge, and whose views would have been of wide interest, felt unable to take any part in the open discussions because they had not sufficient time to study the printed papers. On this point I do not think that anything more can be said at present. The Committee certainly did their best and so did many of the contributors and so did the printers. The remedy must lie with next year's team.

(2) At these meetings most (if not all) of the chairmen seemed to regard it as their duty to call upon members who wished to speak, strictly in the order in which they stood up. There is, of course, much that can be said in favour of this tradition, but I feel that it permits certain serious disadvantages: First, some members might exercise their right to speak far too often and might speak far too long: Second, some members were in fact unable to 'catch the chairman's eye' before too late or were cut off in the middle of their speeches; and this happened to some philosophers whom nearly everybody wanted to hear.

I suggest that, at the next Joint Session, far more positive discretion should be given to the chairmen, as to when they call on members and as to whether they call on them or not, and as to the length of time which each one is allowed—certainly there should not be one set time for all speakers. For this purpose, it would be important to choose chairmen who are acquainted with most of the members present and have some idea as to their quality and as to the side they are likely to support in the discussion.

I suggest also that something be done to accommodate those members who make up their minds that they wish to speak before a session begins. They might be encouraged to inform the chairman before the symposium opens, or hand in their names after the first papers have been read. It should be understood that this in no way limits the discretion of the chairman or gives such members any definite priority. In effect, it will make things easier for the chairman: he will be able to keep an eye open for those members who have truths they wish to utter, even when they are reclining on sofas behind his back; and it will enable him to announce the names of new speakers as yet unknown to the assembly. It might also be a good practice for the chairman to write out a list of members who have spoken from the floor at his session, and hand it on to the chairman of the next meeting.

If these suggestions sound complicated or 'mechanical', I can testify from my own experience at the Cambridge Union Society that they are not so in practice. No doubt they have some tendency to favour the 'prepared' speaker as against the spontaneous intervener: but in a serious discussion, and one in which forensic ability is by no means universal, I think this is a gain if not pressed too far.

Yours faithfully,

University College of Swansea.

KARL BRITTON.

PRIX ARNOLD REYMOND,
FONDATION CHARLES-EUGÈNE GUYE.

Lausanne, mai 1947.

Nous avons l'honneur de porter à la connaissance des universités et sociétés savantes de tous pays l'institution d'un *Prix de philosophie scientifique* décerné par l'Université de Lausanne (Suisse).

Charles-Eugène Guye, le grand savant qui fut professeur de physique à l'Université de Genève, a légué à l'Université de Lausanne, en date du 15 mai 1941, une somme destinée à la création d'un prix de philosophie scientifique. Selon le vœu du donateur, ce prix porte le nom de *Prix Arnold Reymond, fondation Charles-Eugène Guye*. Il doit être décerné, à partir de 1944 où eut lieu sa première attribution, cinq ans au plus tôt et dix ans au plus tard après cette date, le même délai étant prévu pour toute nouvelle attribution.

Aux termes du testament, le Prix Arnold Reymond doit récompenser le mémoire qui exposera de la façon la plus claire et la plus impartiale les progrès et les tendances, au cours des dix dernières années, de la philosophie scientifique considérée dans son ensemble ou dans l'un de ses domaines.

Les mémoires doivent être rédigés dans l'une des langues suivantes : français, allemand, anglais, italien, ou latin, la Commission du Prix restant toutefois libre d'accepter exceptionnellement des textes rédigés dans une autre langue. Elle peut aussi récompenser un ouvrage déjà publié. Le nom du lauréat est proclamé en séance publique du Sénat universitaire.

Le Prix Arnold Reymond a été décerné en 1944 à M. Pierre Lecomte du Noüy.

Les manuscrits et publications des candidats qui s'annonceront pour la prochaine attribution du prix doivent être adressés avant le 1er janvier 1951 à la Commission du Prix Arnold Reymond, fondation Charles-Eugène Guye, Secrétariat de l'Université, Lausanne. Les candidats seront avisés de la date à laquelle le prix sera conféré. Son montant sera d'au moins 1000 francs suisses.

Pour de plus amples renseignements, s'adresser au Président de la Commission, Université de Lausanne.

SUSAN STEBBING STUDENTSHIP.

16th July, 1947.

To the Editor of MIND.

DEAR SIR,

Readers of MIND may be interested to learn that in June of this year the first award was made of the Susan Stebbing Studentship. The successful candidate is Mademoiselle Françoise Chauvet, a French lady who has the Licence ès Lettres of the University of Lyon and hopes to proceed to her Agrégation. She is studying the origins of modern philosophy with special reference to Bacon and Descartes, and will hold the Studentship at Bedford College.

Yours faithfully,

H. B. ACTON.

MIND ASSOCIATION: FORTY-SEVENTH ANNUAL MEETING.

The forty-seventh Annual Meeting of the Association was held on Friday, 4th July, 1947, at 5 p.m. in the old Combination Room, Trinity College, Cambridge. Mr. R. B. Braithwaite, Vice-President, took the chair at the request of the meeting in the absence of the President.

The minutes of the previous Annual Meeting were read and signed. A motion expressing the sorrow of the meeting at the death of the late Treasurer, Mr. Henry Sturt, and sympathy with his family, was proposed by the Chairman and unanimously carried.

Mr. J. D. Mabbott was elected Treasurer of the Association for three years and his report as Treasurer was read and adopted.

The Chairman reported that Professor G. E. Moore had intimated his wish to be relieved of the Editorship of MIND, on grounds of health, and proposed a motion (the text of which is printed below) placing on record the gratitude of the Association for the services rendered by Professor Moore as Editor of MIND. The motion was carried unanimously.

The Chairman announced that an invitation had been received from Durham University inviting the Association and the Aristotelian Society to hold the Joint Session there in 1948. It was agreed that the Joint Session in 1948 and the next Annual Meeting should be held at Durham, dates to be announced later.

Professor W. H. F. Barnes of Durham University was elected President of the Association for 1948. The Vice-Presidents were re-elected and Professor G. E. Moore was elected a Vice-President on his retirement from the Editorship of MIND.

THE EDITORSHIP OF MIND.

The Executive Committee of the Mind Association at a meeting held on Sunday, 6th July, 1947, in Trinity College, Cambridge, appointed Professor Gilbert Ryle, Waynflete Professor of Metaphysics in the University of Oxford, to be the Editor of MIND in the place of Professor G. E. Moore, for the issues of the journal during the three calendar years beginning on 1st January, 1948.

The text of a motion carried unanimously by the forty-seventh Annual General Meeting of the Mind Association, after the announcement of Professor Moore's wish to be relieved of the Editorship of MIND was as follows :

"The forty-seventh Annual General Meeting of the Mind Association held in Cambridge on 4th July, 1947, wish to place on record their gratitude for the services rendered to the Association and to philosophy by Professor G. E. Moore in being Editor of MIND during the twenty-seven years, 1921-1947. In the "Autobiography" prefixed to the volume "The Philosophy of G. E. Moore" (1942), Professor Moore has said that, in editing MIND he had "tried in accordance with the principles laid down when MIND was started and repeated by Stout in the Editorial which he wrote at the beginning of the New Series, to let merit, or in other words the ability which a writer displays, and not the opinions which he holds, be the sole criterion of whether his work should be accepted" (p. 36). The high position which MIND occupies in the philosophical world is due to the consistency with which Professor Moore has followed the policy which he set for himself. The Association congratulates Professor Moore on his long, distinguished and memorable Editorship, and wishes him health and all happiness in his retirement."

MIND ASSOCIATION.

Those who wish to join the Association should communicate with the Hon. Secretary, Mr. H. L. A. HART, New College, Oxford, or with the Hon. Treasurer, Mr. J. D. MABBOTT, St. John's College, Oxford, to whom the yearly subscription of sixteen shillings should be paid. Cheques should be made payable to the Mind Association, Westminster Bank, Oxford. Members may pay a Life Compocition of £16 instead of the annual subscription.

In return for their subscriptions members receive MIND gratis and post free, and (if of 3 years' standing) are entitled to buy back numbers of both the Old and the New Series at half-price.

Members resident in U.S.A. may pay the subscription (\$4) to the Hon. Assistant-Treasurer, Prof. B. Blanshard, Dept. of Phil., Yale University, New Haven, Conn.

THE EDITORSHIP OF MIND

The Executive Committee of the Mind Association at a meeting held on Sunday, September 1947, in Great Britain, elected Professor G. E. Moore as Editor of MIND for the year 1947-1948. Professor G. E. Moore was elected a Vice-President of the Association in 1945. It was agreed that the next Annual Meeting should be held in London in 1948. The date of the next Annual Meeting was decided later. Professor W. H. R. Rivers of University of London was elected President of the Association for 1948. The Vice-Presidents were elected and the Treasurer was elected. A Vice-President on his retirement from the Editorship of MIND.

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